176710

SITE ASSESSMENT REPORT
FOR
A.A. Waste Oil
U.S. EPA ID: ILD000810291
ROCK ISLAND, ILLINOIS

TDD: T05-9203-020
PAN: EIL0288SAA

MAY 27, 1992

Prepared by: _____ Date: 5/29/92
Reviewed by: _____ Date: 5/29/92
Approved by: _____ Date: 5/29/92

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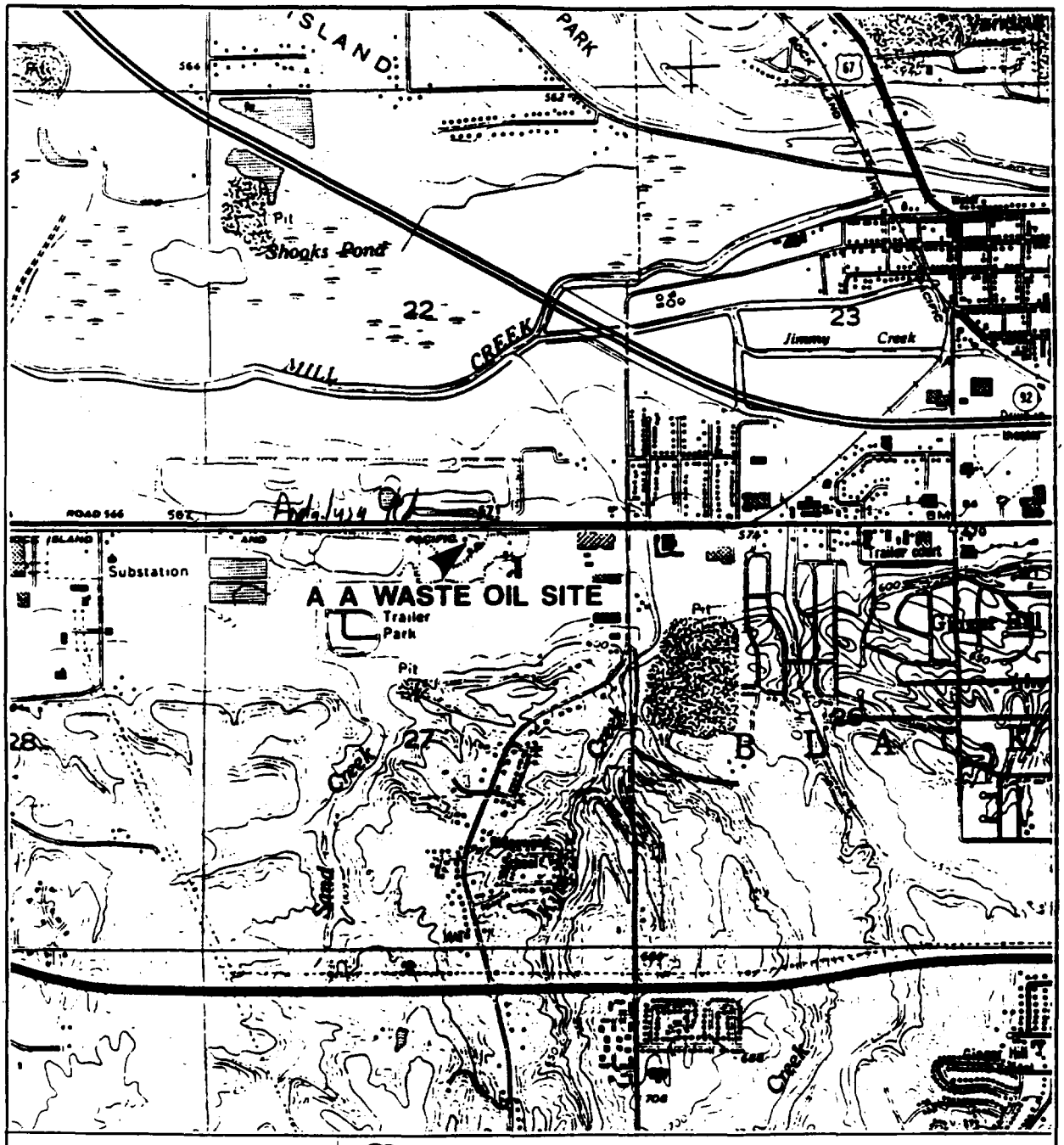
1.0 INTRODUCTION

The Ecology and Environment, Inc. (E & E), Technical Assistance Team (TAT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to respond to the A.A. Waste Oil site, Rock Island, Illinois, under Technical Directive Document (TDD) T05-9203-020, issued on March 24, 1992. Upon request of U.S. EPA On-Scene-Coordinator (OSC) Charles Gebien, a site assessment was conducted by TAT at the site on March 27, 1992. The site assessment, including sampling of suspected hazardous materials, was conducted by TAT at the site on March 27, 1992.

2.0 BACKGROUND

The A.A. Waste Oil site is an abandoned waste oil storage, processing and transfer facility located at 1800 78th Avenue, Rock Island, Rock Island County, Illinois, latitude 41 26' 34.3", longitude 090 35' 37.7" (See Figure 1 for site location). The site consists of three small buildings and a tank farm area. The tank farm is surrounded by an earthen secondary containment wall. Approximately fourteen vertical and horizontal storage tanks with varying capacities are located within the retention area. The site is situated on approximately two acres, in a mixed industrial/residential setting. The A.A. Waste Oil site is bordered on the west and south by vacant, vegetated open areas; on the east by several small industries; and on the north by the Chicago, Rock Island and Pacific Railroad as well as by 78th Avenue, otherwise known as Andalusa Road. The site is easily accessible from all boundaries. A 7-foot cyclone style fence surrounds the tank farm and containment area. A gap in the gate area of this fence could potentially allow unauthorized access to the tank farm area. There is no guard present at the site to restrict site access.

The facility began operation in 1970. At this time the facility was owned by Industrial Fuels, Inc., of Springfield, Illinois, and was



QUADRANGLE LOCATION

ecology and environment, Inc.

Technical Assistance Team
Region V

TITLE	SITE LOCATION MAP	FIGURE # 1
SITE	A.A. WASTE OIL	SCALE 1:24,000
CITY	ROCK ISLAND STATE IL	PAN EIL0288SAA

identified as A.A. Waste Oil Service, Inc. In 1983, an Illinois company, Moreco Energy Inc., purchased and began operating the facility as a subsidiary, retaining the original name. During certain years of operation, A.A. Waste Oil processed or treated a variety of oils and petroleum refinery wastes, in addition to acting as a storage/transfer facility. Treatment consisted principally of oil/water emulsion separation utilizing a boiler or distillation method. Treated oil was either sold as a fuel or shipped off-site for re-refining. Residual water with trace oils was sold as a dust control agent. The facility discontinued operation in approximately 1991.

It is believed that solvent-bearing wastes and waste oils contaminated with poly-chlorinated biphenyls (PCBs) were being stored and possibly processed at the facility while it was in operation. It is also believed that two storage tanks, presently on-site, contain PCB contaminated oil. The facility initially operated under a generic special waste permit, issued by the Illinois Environmental Protection Agency (IEPA), to handle waste oils and later maintained a RCRA Part A interim status permit, required for a Treatment, Storage and Disposal (TSD) facilty. In August, 1981, A.A. Waste oil submitted a 103 (c) hazardous waste site notification. Listed on the notification as specific waste types were U.S. EPA hazardous waste codes K048, K049, K051, K052, D008, and D001. While in operation, the average monthly volume of hydrocarbons received was approximately 200,000 gallons. The containment basin surrounding the tank farm has a total capacity of approximately 650,000 gallons. The largest storage tank on-site has a total capacity of 500,000 gallons.

The Illinois Environmental Protection Agency (IEPA) has conducted a number of inspections over the years at the A.A. Waste Oil site and has documented numerous operating violations. Violations primarily consisted of: inadequate means to prevent tank overflow; inadequate management of oil and water accumulation in the containment basin, due to oil spills and subsequent flooding; lack of current and proper operating permits; and inadequate record keeping and waste manifesting requirements. The U.S. EPA Field Investigation Team (FIT) conducted a

screening site inspection at the A.A. Waste Oil site on March 4, 1985.

In July 1985, the Attorney General of the State of Illinois issued a Temporary Restraining Order or a Preliminary Injunction against the A.A. Waste Oil site and Moreco Energy, Inc. The injunction stipulated various requirements, including, but not limited to, the following: (1) Secure the entire site, the tanks and the valves and piping of the tanks, until such time as all hazardous substances have been properly removed; (2) Cease and desist from further depositing or allowing the depositing of leaking liquids from the tanks; (3) Cease and desist from discharging liquids from the A.A. Waste Oil site onto property and/or into ditches adjacent to and off-site of Defendants' property; (4) Obtain professional services, approved by the Plaintiff, to formulate plans for the study and testing of all storage tanks, on-site soils, and groundwater for hazardous constituents; and (5) Properly remediate and dispose of hazardous wastes on-site, including PCB-contaminated oil in storage tanks. It is not known how many of these stipulations were adheared to before the facility ceased operation.

In 1989, IEPA proposed that the facility be listed as a hazardous waste site within the state of Illinois. On ApDril 3, 1991, IEPA filed a Consent Order requiring Moreco Energy, Inc., to conduct remedial activities. The order not only included the A.A. Waste Oil site, but three other Moreco Energy owned sites located in Illinois and operating similar facilities. The firm filed for bankruptcy in June 1991. According to IEPA, the Consent Order cannot be acted upon because of the current financial situation of Moreco Energy, Inc.

3.0 SITE ACTIVITIES

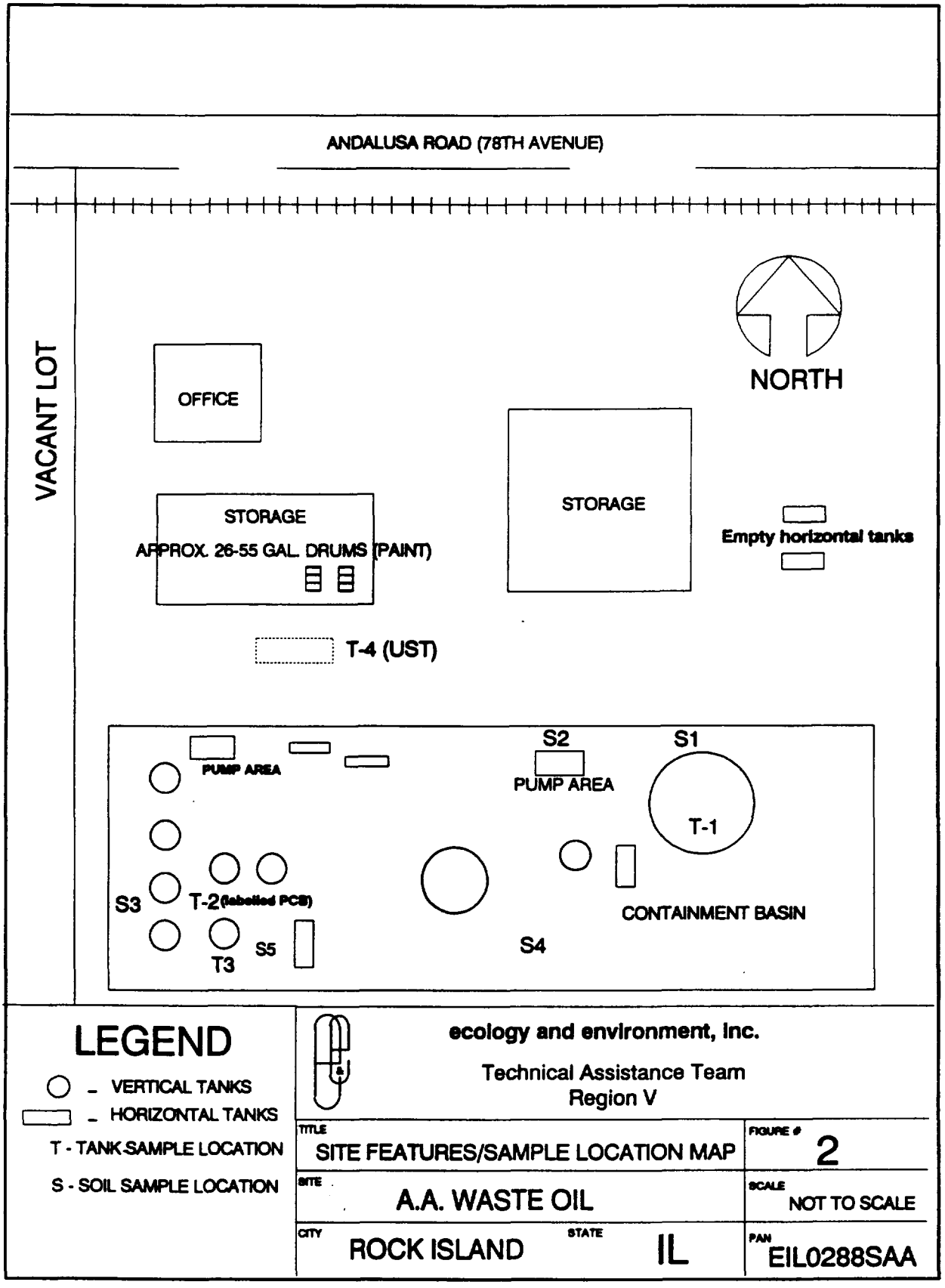
On March 27, 1992, TAT members mobilized equipment and arrived on-site in Rock Island, Illinois, along with U.S. EPA OSC Charles Gebien. A representative from IEPA and a site representative for Moreco Energy also arrived shortly thereafter. Personnel on-site and their affiliations are listed below.

Personnel	Affiliation
Charles Gebien	U.S. EPA OSC
Brad Stimple	TAT Team Leader
Ron Bugg	TAT Member
Michelle Jaster	TAT Member
Al Kirwan	IEPA
Frank Lappin	Moreco Representative

Upon the arrival of the IEPA representative, the OSC, TAT members, and IEPA discussed the site history and reviewed IEPA site files. A discussion was also held concerning proposed activities for the day and possible sampling techniques and locations.

TAT members initiated an on-site reconnaissance in level D protection. No readings above background were noted on the site entry/air monitoring equipment carried by TAT during the reconnaissance inspection. The equipment consisted of an HNu photoionization detector, a combustible gas indicator (CGI), and a radiation meter. TAT entered the tank farm area through the fence gate which was opened by the site representative using bolt-cutters to cut the padlock.

Site features include three buildings and an on-site containment area in which 14 storage tanks are located. The containment basin borders the east, west, and south property boundaries (See Figure 2 for site features). Several small sheds and two loading/unloading pump stations are located along the north containment boundary. During the time of the inspection, standing water, which had been noted during previous IEPA site visits, was not present within the basin. According to the IEPA inspections, any accumulation of standing water and oil was pumped from the containment area into a drainage ditch flowing to the north, located along the east site boundary. The drain then flowed west between Andalusa Road and the railroad tracks, along the north site boundary. The drain flows under Andalusa Road, again flowing north, and eventually empties into an unknown body of water north of the site. Soil staining was evident throughout the containment basin, most


ANDALUSA ROAD (78TH AVENUE)
VACANT LOT
NORTH
OFFICE
STORAGE
STORAGE
APPROX. 26-55 GAL. DRUMS (PAINT)
Empty horizontal tanks
T-4 (UST)
PUMP AREA
S2
PUMP AREA
S1
T-1
S3
T-2 (labelled PCB)
T3
S5
S4
CONTAINMENT BASIN
LEGEND
VERTICAL TANKS
HORIZONTAL TANKS
T - TANK SAMPLE LOCATION
S - SOIL SAMPLE LOCATION
ecology and environment, inc.
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Region V
TITLE
SITE FEATURES/SAMPLE LOCATION MAP
FIGURE #
2
SITE
A.A. WASTE OIL
SCALE
NOT TO SCALE
CITY
ROCK ISLAND
STATE
IL
PAN
EIL0288SAA

prominantly in areas near the tank valves and piping and at the two loading/unloading stations.

The TAT observed eight aboveground storage tanks (ASTs) of 15,000 to 20,000-gallon capacity; one AST of 500,000-gallon capacity; and one 85,000-gallon capacity vertical AST within the containment basin. Four empty, disconnected, horizontal tanks were also located in this area. Most of these tanks had previously been numbered using spray paint. Tank number four was also labelled with a yellow PCB sticker. It was assumed during the inspection that the vertical tanks did contain at least some amount of material, as the piping was still connected. It was later visually determined by the TAT that the largest vertical tank contained approximately 250,000 to 300,000 gallons of liquid and that two of the 20,000-gallon tanks were nearly full. The TAT collected samples from each of these three tanks. The site representative informed the TAT that the 85,000-gallon tank and many, if not all, of the other 15,000 to 20,000-gallon vertical tanks were empty, with the possible exception of the tank bottoms. It is unknown whether these tanks contain material.

The three small on-site buildings are constucted of concrete blocks and are located outside of the containment area. During the facility's operation, these buildings were utilized as offices and for storage/maintenance. The buildings are presently locked and used as general storage. The site representative did not have the proper key to allow the TAT access to these buildings. Upon completion of the site inspection, as TAT members were about to leave the site, the former plant manager of A.A. Waste Oil, Dave Delvechio, arrived with keys to these buildings. Upon entering, TAT observed 22 55-gallon drums and 4 85-gallon overpacked drums in the storage building immediately south of the building previously used as an office. Delvechio informed the TAT that the drums contained waste oil- based paint once used to maintain the storage tanks. Due to time constraints, TAT was unable to collect samples from the drums. No drums were observed in either of the remaining two buildings.

One underground storage tank (UST) was located by the TAT approximately 20 feet south of the building housing the drums. A capped steel standpipe was observed extending 1 foot above the ground surface here. The site representative had not known of the UST existence. It is not known whether other USTs exist on-site. The TAT did not observe any other similiar standpipes on-site.

The TAT also observed approximately five to seven empty horizontal storage tanks of varying sizes located outside the containment basin, situated primarily in the eastern portion of the site.

After completion of the initial site reconnaissance, the TAT and the OSC discussed their observations and elected to collect five soil samples from within the containment basin, three vertical storage tank samples, and one UST sample. The TAT rented an aluminum extension ladder to enable collection of samples from two 20,000-gallon tanks. The samples were collected in an attempt to determine the extent of potential contamination and to confirm the presence of hazardous wastes on-site. Samples were collected in level D protection, as warranted by air monitoring equipment. All samples were split with the site representative.

Surface soil sample S1 was collected near the flow valve and piping of the 500,000-gallon tank (See Figure 2 for sample locations). Surface soil sample S2 was collected near the east pump station along the north containment wall perimeter. Soil sample S3 was collected on the west side of the tank labeled as containing PCB. Surface soil sample S4 was collected in an open area of the south-central portion of the containment basin. The final surface soil sample, S5, was collected by the TAT immediately east of the storage tank marked number four. All soil samples were collected as grab samples from visibly stained surface locations. Soil samples were collected using stainless steel trowels and mixing bowls, tranferring sample material into appropriate sample containers. Sample equipment was decontaminated using an Alconox and distilled water solution, and then triple rinsed using distilled water.

Storage tank sample T1 was collected from the 500,000-gallon tank. Because the tank was approximately two-thirds full, the sample was representative of the stored material to a depth of 2 to 3 feet from the surface. The top of the tank was accessed by a permanent metal ladder attached to the side of the tank. Tank sample T2 was collected from the 20,000-gallon tank labeled as containing PCB. Tank sample T3 was collected from the 20,000-gallon tank marked as number four. Tank samples T1 through T3 appeared to be black, viscous, oil-like material. Tank sample T4 was collected by the TAT from the UST located outside of the containment area. Tank sample T4 appeared to be principally water with a floating layer of oil. All tank samples were collected using disposable plastic bailers and transferred directly into their appropriate sample containers.

Following sample collection and decontamination, areas of the site were photographed (See Appendix B for site photographs) and sample management activities were completed. Samples were delivered to a Federal Express office in Peru, Illinois. The samples were then shipped to the laboratories of Ecology and Environment, Inc., in Buffalo, New York.

4.0 ANALYTICAL RESULTS

All samples collected by the TAT at the A.A. Waste oil site were analyzed for volatile and semi-volatile organic compounds, PCB/pesticides, eight RCRA metals (TCLP), flashpoint, and reactive cyanide and sulfide (See Appendix A for analytical results).

Significant concentrations of volatile and semi-volatile organics, PCBs, and total sulfides were detected in the tank and soil samples. Two notable results were the detection of Aroclor 1254 at 2,800 ppm in tank sample T2, and the detection of Aroclor 1242 and 1260 at a combined total of 32 ppm in soil sample S1. Also, A summary of these significant concentrations is included as Table 1-1 of this report. No significant concentrations of the eight RCRA metals or of the total cyanides were detected in either the tank samples or the soil samples. Flashpoints of

Table 1-1

SIGNIFICANT ANALYTICAL RESULTS OF CHEMICAL ANALYSIS OF

TAT-COLLECTED TANK AND SOIL SAMPLES

Sample Collection Information and Parameters	Sample Number T-1	T-2	T-3	S-1
Date	3/27/92	3/27/92	3/27/92	3/27/92
Lab Sample Number	36222	36223	36223	36226
Compound Detected (values in µg/kg)				
Volatile Organics				
acetone		64,000 B	present	
methylene chloride		52,000 B	79,000 B	
2-butanone (MEK)		110,000		
1,1,1-trichloroethane		310,000	present	
trichloroethene		34,000		
tetrachloroethene	44,000	110,000	present	
toluene	73,000	490,000	320,000	
ethylbenzene	43,000	110,000	present	
xylenes (total)	250,000	480,000	220,000	
Semivolatile Organics				
naphthalene	220,000 J	310,000 J	present	
2-methylnaphthalene	1,200,000 J	920,000 J	present	
4-chlo-3-methylphenol	800,000 J			
1,2,4,-trichlorobenzene		750,000 J		
Pesticides/PCBs (values in mg/kg)				
Aroclor 1242				22
Aroclor 1254		2,800		
Aroclor 1260				10
Sulfide Total value in mg/l	190	460	460	

B- also present in blank

J- estimated value

the tank and soil samples were all determined to be above 140 F.

5.0 DISCUSSION OF POTENTIAL THREATS

Conditions present at the A.A. Waste Oil site may constitute a threat to public health and welfare or the environment based on considerations as set forth in the National Contingency Plan (NCP), 40 CFR Section 300.415 (b) (2) and may therefore justify that a removal action be conducted at this site. These conditions include, but are not limited to, the following:

(i) Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals or food chain.

Analytical results of three storage tank samples collected by the TAT indicate the presence of hazardous substances such as 1,1,1-trichloroethane, tetrachloroethene, toluene, xylenes, and PCBs. Because the facility is abandoned and a rather large volume of contaminated oil remains stored on-site, any release would not be properly or expeditiously addressed, thereby allowing a possible threat to health and environment.

(ii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.

Due to the lack of a proper tank maintenance program at this abandoned facility, deterioration of the tanks, leading to possible tank releases, may become a more evident possibility. The TAT observed over 20 55-gallon drums of waste paints, believed to be oil-based and possibly hazardous, existing within an on-site storage building. Because these drums are unattended and improperly stored, a health or environmental threat is possible if a release were to occur.

(iii) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

A total PCB concentration was detected in soil sample S1 at 32 ppm. The National Spill Cleanup Policy (40 CFR, Part 761) regulated under TSCA, requires that cleanup levels for restricted access locations be set at 25 ppm or less, while cleanup levels for unrestricted areas will be set at 10 ppm.

6.0 SUMMARY

The following conclusions and recommendations are to be considered based on the on-site sampling results and TAT on-site observations conducted on March 27, 1992:

* Hazardous substances have been documented as being stored at this abandoned facility.
* A containment wall and fence surround the tank farm area, providing relatively little restriction to access. Access to the surrounding site area is unrestricted.
* Drums of waste paint do exist in an on-site building and require future sampling to determine any hazardous constituents.
* Further soil sampling may be required to determine the extent of PCB contamination in soils.

The A.A. Waste Oil site presents a potential threat to the public and the environment from hazardous substances stored in tanks and drums in an uncontrolled manner. Site inspections and analytical information have documented releases of hazardous substances to on-site soils. A removal action is necessary to remove and properly dispose of petroleum industry wastes, waste oils, and PCB-contaminated oils/soils.

APPENDIX A

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

MEMORANDUM

DATE: April 29, 1992

TO: Brad Stimple, Project Manager, E & E, Chicago, IL

FROM: Jane G. Malkin, TAT-Chemist, E & E, Chicago, IL

SUBJ: **Organic Data Quality Assurance Review**, AA Waste Oil, Rock Island, IL

REF: Analytical TDD: TO5-9203-807 Project TDD: TO5-9203-020
Analytical PAN: EIL0288AAA Project PAN: EIL0288SAA

The data quality assurance review of 5 soil samples and 4 liquid samples collected from the AA Waste Oil site in Rock Island, Illinois has been completed. Analysis for volatile organics (EPA method 8240) was performed by Ecology & Environment, Analytical Service Centers, Cheektowaga, New York.

The 5 soil samples were numbered, S-1 through S-5, and the liquid samples were numbered, T-1 through T-4.

Data Qualifications:

I. Holding Time: Acceptable

The samples were collected on March 27, 1992 and analyzed by April 2, 1992, which met the holding time requirement of 14 days for volatile organic samples.

II. GC/MS Tuning: Acceptable

GC/MS tuning ion abundance criteria for bromofluorobenzene (BFB) was within the established control limits.

III. Calibration

A. Initial Calibration:

The initial calibrations on the instruments for the volatile analysis ware performed on 3/16/92 (instrument ID, 7003G) and 1/29/92 (instrument ID, 7001D). All average relative response factors (RRF's)

were greater than 0.05 and the percent relative standard deviation (RSD) between response factors was less than 30% except for 2-butanone (35.7%) for instrument ID, 7001D. Since 2-butanone was not detected in the associated samples, no action was taken.

B. Continuing Calibration:

continuing calibrations were performed on the same dates as the analysis. All the continuing calibration standard RRFs were greater than 0.05 and the percent difference (%D) from initial calibration were less than 25% except for the following:

Date	Compound	%D
3/31/92	methylene chloride	27.65
	acetone	26.77
4/2/92	acetone	32.75
	carbon disulfide	29.68
	2-chloroethylvinylether	44.48
	chloromethane	34.18
	4-methyl-2-pentanone	56.05
	2-hexanone	33.52

All associated positive results were flagged (J) as estimated.

IV. Internal Standards: Data not available.

V. Matrix Spike/Matrix Spike Duplicates (MS/MSD):

The lab spiked sample number S-4. The percent recoveries of the MS/MSD were all within the control limits and relative percent difference (RPD) between the recoveries were all within control limits.

VI. Method Blank:

No contamination above the instrument detection limit (IDL) was detected except for methylene chloride and acetone in method blank 1, methylene chloride in method blank 2, and methylene chloride in method blank 4. The following are the associated samples in each method blank number:

Method blank 1 (T-1, T-2, and T-4)
Method blank 2 (T-3)
Method blank 4(S-1 through S-5)

The above compounds were flagged (B) in the associated sample results.

VII. Surrogate Recovery: Acceptable

The percent surrogate recoveries were all within the prescribed control limits.

VIII. Compound Identification: Acceptable

A review of the data indicated that the retention time and peak areas have reasonable agreement with the standards.

IX. Overall Assessment of Data for Use:

The overall usefulness of the data is based on the criteria outlined in "Quality Assurance/Quality Control Guidance for Removal Activities" (OSWER Directive 9360.4-01 April, 1990).

Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or quality control criteria were not met.

B - The material was detected in the sample, and was also detected in the blank.

TEST CODE :LPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI UNITS : UG/KG
SAMPLE ID LAB : EE-92-36222 MATRIX: LIQUID
SAMPLE ID CLIENT: T-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		12000
Bromomethane	ND		12000
Vinyl Chloride	ND		12000
Chloroethane	ND		12000
Methylene chloride	ND		6200
Acetone	ND		12000
Carbon disulfide	ND		6200
1,1-Dichloroethene	ND		6200
1,1-Dichloroethane	ND		6200
Total-1,2-Dichloroethene	ND		6200
Chloroform	ND		6200
1,2-Dichloroethane	ND		6200
2-Butanone	ND		12000
1,1,1-Trichloroethane	9800		6200
Carbon tetrachloride	ND		6200
Vinyl acetate	ND		6200
Bromodichloromethane	ND		6200
1,2-Dichloropropane	ND		6200
trans-1,3-Dichloropropene	ND		6200
Trichloroethene	7500		6200
Dibromochloromethane	ND		6200
1,1,2-Trichloroethane	ND		6200
Benzene	ND		6200
cis-1,3-Dichloropropene	ND		6200
2-Chloroethylvinyl ether	ND		12000
Bromoform	ND		6200
4-Methyl-2-pentanone	ND		12000
2-Hexanone	ND		12000
Tetrachloroethene	44000		6200
1,1,2,2-Tetrachloroethane	ND		6200
Toluene	73000		6200
Chlorobenzene	ND		6200
Ethylbenzene	43000		6200
Styrene	ND		6200
Total Xylenes	250000		6200

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LPURG 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI
SAMPLE ID LAB : EE-92-36223
SAMPLE ID CLIENT: T-2
SAMPLE LOCATION :

UNITS : UG/KG
MATRIX: LIQUID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		12000
Bromomethane	ND		12000
Vinyl Chloride	ND		12000
Chloroethane	ND		12000
Methylene chloride	52000	B	6200
Acetone	64000	B	12000
Carbon disulfide	ND		6200
1,1-Dichloroethene	ND		6200
1,1-Dichloroethane	ND		6200
Total-1,2-Dichloroethene	ND		6200
Chloroform	ND		6200
1,2-Dichloroethane	ND		6200
2-Butanone	110000		12000
1,1,1-Trichloroethane	310000		6200
Carbon tetrachloride	ND		6200
Vinyl acetate	ND		6200
Bromodichloromethane	ND		6200
1,2-Dichloropropane	ND		6200
trans-1,3-Dichloropropene	ND		6200
Trichloroethene	34000		6200
Dibromochloromethane	ND		6200
1,1,2-Trichloroethane	ND		6200
Benzene	ND		6200
cis-1,3-Dichloropropene	ND		6200
2-Chloroethylvinyl ether	ND		12000
Bromoform	ND		6200
4-Methyl-2-pentanone	ND		12000
2-Hexanone	ND		12000
Tetrachloroethene	110000		6200
1,1,2,2-Tetrachloroethane	ND		6200
Toluene	490000		6200
Chlorobenzene	ND		6200
Ethylbenzene	110000		6200
Styrene	ND		6200
Total Xylenes	480000		6200

5/6/92

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

9200.687 print

TEST CODE :LPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI UNITS : UG/KG
SAMPLE ID LAB : EE-92-36224 MATRIX: LIQUID
SAMPLE ID CLIENT: T-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		120000
Bromomethane	ND		120000
Vinyl Chloride	ND		120000
Chloroethane	ND		120000
Methylene chloride	79000	B	62000
Acetone	PRESENT	L	120000
Carbon disulfide	ND		62000
1,1-Dichloroethene	ND		62000
1,1-Dichloroethane	ND		62000
Total-1,2-Dichloroethene	ND		62000
Chloroform	ND		62000
1,2-Dichloroethane	ND		62000
2-Butanone	ND		120000
1,1,1-Trichloroethane	PRESENT	L	62000
Carbon tetrachloride	ND		62000
Vinyl acetate	ND		62000
Bromodichloromethane	ND		62000
1,2-Dichloropropane	ND		62000
trans-1,3-Dichloropropene	ND		62000
Trichloroethene	ND		62000
Dibromochloromethane	ND		62000
1,1,2-Trichloroethane	ND		62000
Benzene	ND		62000
cis-1,3-Dichloropropene	ND		62000
2-Chloroethylvinyl ether	ND		120000
Bromoform	ND		62000
4-Methyl-2-pentanone	ND		120000
2-Hexanone	ND		120000
Tetrachloroethene	PRESENT	L	62000
1,1,2,2-Tetrachloroethane	ND		62000
Toluene	3200000		62000
Chlorobenzene	ND		62000
Ethylbenzene	PRESENT	L	62000
Styrene	ND		62000
Total Xylenes	220000		62000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI UNITS : UG/KG
SAMPLE ID LAB : EE-92-36225 MATRIX: LIQUID
SAMPLE ID CLIENT: T-4
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		12000
Bromomethane	ND		12000
Vinyl Chloride	ND		12000
Chloroethane	ND		12000
Methylene chloride	8800	B	6200
Acetone	ND		12000
Carbon disulfide	ND		6200
1,1-Dichloroethene	ND		6200
1,1-Dichloroethane	ND		6200
Total-1,2-Dichloroethene	ND		6200
Chloroform	ND		6200
1,2-Dichloroethane	ND		6200
2-Butanone	ND		12000
1,1,1-Trichloroethane	ND		6200
Carbon tetrachloride	ND		6200
Vinyl acetate	ND		6200
Bromodichloromethane	ND		6200
1,2-Dichloropropane	ND		6200
trans-1,3-Dichloropropene	ND		6200
Trichloroethene	8900		6200
Dibromochloromethane	ND		6200
1,1,2-Trichloroethane	ND		6200
Benzene	ND		6200
cis-1,3-Dichloropropene	ND		6200
2-Chloroethylvinyl ether	ND		12000
Bromoform	ND		6200
4-Methyl-2-pentanone	ND		12000
2-Hexanone	ND		12000
Tetrachloroethene	7500		6200
1,1,2,2-Tetrachloroethane	ND		6200
Toluene	29000		6200
Chlorobenzene	ND		6200
Ethylbenzene	7700		6200
Styrene	ND		6200
Total Xylenes	60000		6200

1/6/92

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT SOLIDS : 89 %
TEST NAME : PURGEABLES - SOIL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36226 MATRIX : SOLID
SAMPLE ID CLIENT: S-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		11
Bromomethane	ND		11
Vinyl Chloride	ND		11
Chloroethane	ND		11
Methylene Chloride	17	B	5.6
1,1-Dichloroethene	ND		5.6
1,1-Dichloroethane	ND		5.6
Total-1,2-Dichloroethene	ND		5.6
Chloroform	ND		5.6
1,2-Dichloroethane	ND		5.6
1,1,1-Trichloroethane	ND		5.6
Carbon Tetrachloride	ND		5.6
Bromodichloromethane	ND		5.6
1,2-Dichloropropane	ND		5.6
trans-1,3-Dichloropropene	ND		5.6
Trichloroethene	ND		5.6
Dibromochloromethane	ND		5.6
1,1,2-Trichloroethane	ND		5.6
Benzene	ND		5.6
cis-1,3-Dichloropropene	ND		5.6
2-Chloroethylvinyl Ether	ND		11
Bromoform	ND		5.6
Tetrachloroethene	ND		5.6
1,1,2,2-Tetrachloroethane	ND		5.6
Toluene	ND		5.6
Chlorobenzene	ND		5.6
Ethylbenzene	ND		5.6
Acetone	18	J	11
Carbon Disulfide	ND		5.6
2-Butanone	ND		11
Vinyl Acetate	ND		11
2-Hexanone	ND		11
Styrene	ND		5.6
Total Xylenes	ND		5.6
4-Methyl-2-Pentanone	ND		11

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SPURG 1

JOB NUMBER : 9200.687
ELAP ID : 10486

Ecology and Environment. Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PURGEABLES - SOIL
SAMPLE ID LAB : EE-92-06227
SAMPLE ID CLIENT: S-2
SAMPLE LOCATION :

%SOLIDS : 86 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	CONT. LIMIT
Chloromethane	ND		12
Bromomethane	ND		12
Vinyl Chloride	ND		12
Chloroethane	ND		12
Methylene Chloride	15	B	5.8
1,1-Dichloroethene	ND		5.8
1,1-Dichloroethane	ND		5.8
Total-1,2-Dichloroethene	ND		5.8
Chloroform	ND		5.8
1,2-Dichloroethane	ND		5.8
1,1,1-Trichloroethane	ND		5.8
Carbon Tetrachloride	ND		5.8
Bromodichloromethane	ND		5.8
1,2-Dichloropropane	ND		5.8
trans-1,3-Dichloropropene	ND		5.8
Trichloroethene	ND		5.8
Dibromochloromethane	ND		5.8
1,1,2-Trichloroethane	ND		5.8
Benzene	ND		5.8
cis-1,3-Dichloropropene	ND		5.8
2-Chloroethylvinyl Ether	ND		12
Bromoform	ND		5.8
Tetrachloroethene	ND		5.8
1,1,2,2-Tetrachloroethane	ND		5.8
Toluene	ND		5.8
Chlorobenzene	ND		5.8
Ethylbenzene	ND		5.8
Acetone	12	J	12
Carbon Disulfide	ND		5.8
2-Butanone	ND		12
Vinyl Acetate	ND		12
2-Hexanone	ND		12
Styrene	ND		5.8
Total Xylenes	ND		5.8
4-Methyl-2-Pentanone	ND		12

[illegible] 7/6/92

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B - ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED CONT. LIMIT

TEST CODE :SPURG 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PURGEABLES - SOIL
SAMPLE ID LAB : EE-92-36228
SAMPLE ID CLIENT: S-3
SAMPLE LOCATION :

%SOLIDS : 89 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		11
Bromomethane	ND		11
Vinyl Chloride	ND		11
Chloroethane	ND		11
Methylene Chloride	12	B	5.6
1,1-Dichloroethene	ND		5.6
1,1-Dichloroethane	ND		5.6
Total-1,2-Dichloroethene	ND		5.6
Chloroform	ND		5.6
1,2-Dichloroethane	ND		5.6
1,1,1-Trichloroethane	ND		5.6
Carbon Tetrachloride	ND		5.6
Bromodichloromethane	ND		5.6
1,2-Dichloropropane	ND		5.6
trans-1,3-Dichloropropene	ND		5.6
Trichloroethene	ND		5.6
Dibromochloromethane	ND		5.6
1,1,2-Trichloroethane	ND		5.6
Benzene	ND		5.6
cis-1,3-Dichloropropene	ND		5.6
2-Chloroethylvinyl Ether	ND		11
Bromoform	ND		5.6
Tetrachloroethene	ND		5.6
1,1,2,2-Tetrachloroethane	ND		5.6
Toluene	ND		5.6
Chlorobenzene	ND		5.6
Ethylbenzene	ND		5.6
Acetone	12	)	11
Carbon Disulfide	ND		5.6
2-Butanone	ND		11
Vinyl Acetate	ND		11
2-Hexanone	ND		11
Styrene	ND		5.6
Total Xylenes	ND		5.6
4-Methyl-2-Pentanone	ND		11

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SPURG 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PURGEABLES - SOIL
SAMPLE ID LAB : EE-92-36229
SAMPLE ID CLIENT: S-4
SAMPLE LOCATION :

%SOLIDS : 85 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		12
Bromomethane	ND		12
Vinyl Chloride	ND		12
Chloroethane	ND		12
Methylene Chloride	16	B	5.9
1,1-Dichloroethene	ND		5.9
1,1-Dichloroethane	ND		5.9
Total-1,2-Dichloroethene	ND		5.9
Chloroform	ND		5.9
1,2-Dichloroethane	ND		5.9
1,1,1-Trichloroethane	ND		5.9
Carbon Tetrachloride	ND		5.9
Bromodichloromethane	ND		5.9
1,2-Dichloropropane	ND		5.9
trans-1,3-Dichloropropene	ND		5.9
Trichloroethene	ND		5.9
Dibromochloromethane	ND		5.9
1,1,2-Trichloroethane	ND		5.9
Benzene	ND		5.9
cis-1,3-Dichloropropene	ND		5.9
2-Chloroethylvinyl Ether	ND		12
Bromoform	ND		5.9
Tetrachloroethene	ND		5.9
1,1,2,2-Tetrachloroethane	ND		5.9
Toluene	ND		5.9
Chlorobenzene	ND		5.9
Ethylbenzene	ND		5.9
Acetone	25		12
Carbon Disulfide	ND		5.9
2-Butanone	ND		12
Vinyl Acetate	ND		12
2-Hexanone	ND		12
Styrene	ND		5.9
Total Xylenes	ND		5.9
4-Methyl-2-Pentanone	ND		12

5/6/92

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
L = PRESENT BELOW STATED QNT. LIMIT
ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

TEST CODE :SPURG 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PURGEABLES - SOIL
SAMPLE ID LAB : EE-92-36230
SAMPLE ID CLIENT: S-5
SAMPLE LOCATION :

%SOLIDS : 92 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		54
Bromomethane	ND		54
Vinyl Chloride	ND		54
Chloroethane	ND		54
Methylene Chloride	60	B	27
1,1-Dichloroethene	ND		27
1,1-Dichloroethane	PRESENT	L	27
Total-1,2-Dichloroethene	ND		27
Chloroform	ND		27
1,2-Dichloroethane	ND		27
1,1,1-Trichloroethane	ND		27
Carbon Tetrachloride	ND		27
Bromodichloromethane	ND		27
1,2-Dichloropropane	ND		27
trans-1,3-Dichloropropene	ND		27
Trichloroethene	ND		27
Dibromochloromethane	ND		27
1,1,2-Trichloroethane	ND		27
Benzene	ND		27
cis-1,3-Dichloropropene	ND		27
2-Chloroethylvinyl Ether	ND		54
Bromoform	ND		27
Tetrachloroethene	37		27
1,1,2,2-Tetrachloroethane	ND		27
Toluene	PRESENT	L	27
Chlorobenzene	ND		27
Ethylbenzene	ND		27
Acetone	ND		54
Carbon Disulfide	ND		27
2-Butanone	ND		54
Vinyl Acetate	ND		54
2-Hexanone	ND		54
Styrene	ND		27
Total Xylenes	ND		27
4-Methyl-2-Pentanone	ND		54

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK #1 MATRIX: LIQUID
SAMPLE LOCATION : 36222, 36223, 36225

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		1200
Bromomethane	ND		1200
Vinyl Chloride	ND		1200
Chloroethane	ND		1200
Methylene chloride	1500		620
Acetone	1400		1200
Carbon disulfide	ND		620
1,1-Dichloroethene	ND		620
1,1-Dichloroethane	ND		620
Total-1,2-Dichloroethene	ND		620
Chloroform	ND		620
1,2-Dichloroethane	ND		620
2-Butanone	ND		1200
1,1,1-Trichloroethane	ND		620
Carbon tetrachloride	ND		620
Vinyl acetate	ND		620
Bromodichloromethane	ND		620
1,2-Dichloropropane	ND		620
trans-1,3-Dichloropropene	ND		620
Trichloroethene	ND		620
Dibromochloromethane	ND		620
1,1,2-Trichloroethane	ND		620
Benzene	ND		620
cis-1,3-Dichloropropene	ND		620
2-Chloroethylvinyl ether	ND		1200
Bromoform	ND		620
4-Methyl-2-pentanone	ND		1200
2-Hexanone	ND		1200
Tetrachloroethene	ND		620
1,1,2,2-Tetrachloroethane	ND		620
Toluene	ND		620
Chlorobenzene	ND		620
Ethylbenzene	ND		620
Styrene	ND		620
Total Xylenes	ND		620

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LPURG 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES-DI UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK #2 MATRIX: LIQUID
SAMPLE LOCATION : 36224

PARAMETER	RESULTS	Q	QNT. LIMIT
Chloromethane	ND		1200
Bromomethane	ND		1200
Vinyl Chloride	ND		1200
Chloroethane	ND		1200
Methylene chloride	1400		620
Acetone	ND		1200
Carbon disulfide	ND		620
1,1-Dichloroethene	ND		620
1,1-Dichloroethane	ND		620
Total-1,2-Dichloroethene	ND		620
Chloroform	ND		620
1,2-Dichloroethane	ND		620
2-Butanone	ND		1200
1,1,1-Trichloroethane	ND		620
Carbon tetrachloride	ND		620
Vinyl acetate	ND		620
Bromodichloromethane	ND		620
1,2-Dichloropropane	ND		620
trans-1,3-Dichloropropene	ND		620
Trichloroethene	ND		620
Dibromochloromethane	ND		620
1,1,2-Trichloroethane	ND		620
Benzene	ND		620
cis-1,3-Dichloropropene	ND		620
2-Chloroethylvinyl ether	ND		1200
Bromoform	ND		620
4-Methyl-2-pentanone	ND		1200
2-Hexanone	ND		1200
Tetrachloroethene	ND		620
1,1,2,2-Tetrachloroethane	ND		620
Toluene	ND		620
Chlorobenzene	ND		620
Ethylbenzene	ND		620
Styrene	ND		620
Total Xylenes	ND		620

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SPURG 1 JOB NUMBER : 4200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PURGEABLES - SOIL UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK #4 MATRIX : SOLID
ASSOCIATED SAMPLES: 36226, 36227, 36228, 36229, 36230

PARAMETER	RESULTS	CONT. LIMIT
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	10	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
Total-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
2-Chloroethylvinyl Ether	ND	10
Bromoform	ND	5.0
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Acetone	ND	10
Carbon Disulfide	ND	5.0
2-Butanone	ND	10
Vinyl Acetate	ND	10
2-Hexanone	ND	10
Styrene	ND	5.0
Total Xylenes	ND	5.0
4-Methyl-2-Pentanone	ND	10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED CONT. LIMIT

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

MEMORANDUM

DATE: May 4, 1992

TO: Brad Stimple, Project Manager, E & E, Chicago, IL

FROM: Jane G. Malkin, TAT-Chemist, E & E, Chicago, IL

SUBJ: Organic Data Quality Assurance Review, AA Waste Oil, Rock Island, IL

REF: Analytical TDD: T05-9203-807 Project TDD: T05-9203-020
Analytical PAN: EIL0288AAA Project PAN: EIL0288SAA

The data quality assurance review of 5 soil samples and 3 liquid samples collected from the AA Waste Oil site in Rock island, Illinois has been completed. Analysis for semi-volatile organics (EPA method 8270) was performed by Ecology & Environment, Analytical Service Center, Cheektowaga, new York.

The 5 soil samples were numbered, S-1 through S-5,a and the liquid samples were numbered T-1 Through T-3.

Data Qualifications:

I. Holding Time: Acceptable

The samples were collected on March 27, 1992, extracted by April 3 and analyzed for semi-volatile analysis by April 4, 1992. This met the required holding time for extraction of 7 days and the holding time for analysis which is 40 days from the date of extraction for semi-volatiles.

II. GC/MS Tuning: Acceptable

GC/MS tuning abundance criteria for decaflourotriphenylphosphine (DFTPP) was within the established control limits.

III. Calibration

A. Initial Calibration:

The initial calibration on the instrument for the

semi-volatile analysis was performed on 12/17/91. All the RRF's were greater than 0.05 and the RSD between the response factors was less than 30% except for 3-nitroaniline (58.124%) and 3,3'-dichlorobenzidine (39.311%). Since none of these compounds were reported in the samples, no action was taken.

B. Continuing Calibration:

The lab performed the continuing calibration each day that the analysis were performed. All the continuing calibration standard RRFs were greater than 0.05 and the percent difference (%D) from initial calibration were less than 25% except for the following:

Date	Compound	%D
3/31/92	4-chloroaniline	33.56
	3-nitroaniline	193.55
	4-nitroaniline	117.50
	carbasole	80.43
4/1/92	4-chloroaniline	33.51
	2-methylnaphthalene	38.59
	3-nitroaniline	152.27
	2,4 dinitrophenol	33.82
	4, nitrophenol	42.22
	4-nitroaniline	58.17
	carbasole	79.45
	benzo(b)fluoranthene	37.47
	benzo(k)fluoranthene	27.73
4/2/92	2-methylnaphthalene	36.89
	hexachlorocyclopentadiene	39.63
	4-nitroaniline	43.89
4/3/92	2-methylnapthalene	40.78
	hexachlorocyclopentadiene	54.92
	2,4,5 trichlorophenol	34.67
	2,4 dinitrophenol	27.65
	4 nitrophenol	27.42
	benzo(b)fluoranthene	31.06
	benzo(k)fluoranthene	28.70

all associated positive results were flagged (J) and all associated non-detect were flagged (UJ) as estimated.

IV. Internal Standards: Data not available.

V. Matrix Spike/Matrix Spike Duplicates (MS/MSD):

Sample number S-4 was spiked by the lab. The percent recoveries were outside the prescribed control limits except for one. All positive results were flagged (J) and all non-detects were flagged (UJ) as estimated for the soil samples.

VI. Method Blank:

No contamination above the instrument detection limit (IDL) was detected except bis(2-ethylhexyl)phthalate in the soil samples. The above compound were flagged (B) in the associated sample results.

VII. Surrogate Recovery: Acceptable

The percent surrogate recoveries were either diluted out or were outside the prescribed control limits. Since the results for the soil samples were previously flagged, no action was taken. All the positive results and the non-detect results for the liquid samples were flagged (UJ) as estimated.

VIII. Compound Identification: Acceptable

A review of the data indicated that the retention time and peak areas have reasonable agreement with the standards.

IX. Overall Assessment of Data for Use:

The overall usefulness of the data is based on the criteria outlined in "Quality Assurance/Quality Control Guidance for Removal Activities" (OSWER Directive 9360.4-01 April, 1990).

Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or quality control criteria were not met.

UJ - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

B - The material was detected in the sample, and was also detected in the blank.

TEST CODE :LBNDI 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS UNITS : UG/KG
SAMPLE ID LAB : EE-92-36222 MATRIX: DI
SAMPLE ID CLIENT: T-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-chloroethyl)ether	ND		500000
1,3-Dichlorobenzene	ND		500000
1,4-Dichlorobenzene	ND		500000
1,2-Dichlorobenzene	ND		500000
Bis(2-chloroisopropyl)ether	ND		500000
N-Nitrosodipropylamine	ND		500000
Hexachloroethane	ND		500000
Nitrobenzene	ND		500000
Isophorone	ND		500000
Bis(2-chloroethoxy)methane	ND		500000
1,2,4-Trichlorobenzene	ND		500000
Naphthalene	PRESENT	L	500000
Hexachlorobutadiene	ND		500000
Hexachlorocyclopentadiene	ND		500000
2-Chloronaphthalene	ND		500000
Dimethyl phthalate	ND		500000
Acenaphthylene	ND		500000
Fluorene	PRESENT	L	500000
Acenaphthene	PRESENT	L	500000
2,4-Dinitrotoluene	ND		500000
2,6-Dinitrotoluene	ND		500000
Diethylphthalate	ND		500000
4-Chlorophenyl phenyl ether	ND		500000
N-Nitrosodiphenylamine	ND		500000
4-Bromophenyl phenyl ether	ND		500000
Hexachlorobenzene	ND		500000
Phenanthrene	PRESENT	L	500000
Anthracene	PRESENT	L	500000
Di-n-butyl phthalate	ND		500000
Fluoranthene	PRESENT	L	500000
Benzidine	ND		2500000
Pyrene	PRESENT	L	500000
Butyl benzyl phthalate	PRESENT	L	500000
3,3'-dichlorobenzidine	ND		1000000
Benzo(a)anthracene	ND		500000
Bis(2-ethylhexyl)phthalate	1600000		500000
Chrysene	ND		500000
Di-n-octyl phthalate	PRESENT	L	500000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LBNDI 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS UNITS : UG/KG
SAMPLE ID LAB : EE-92-36222 MATRIX: DI
SAMPLE ID CLIENT: T-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzo(b)fluoranthene	ND		500000
Benzo(k)fluoranthene	ND		500000
Benzo(a)pyrene	ND		500000
Indeno(1,2,3-cd)pyrene	ND		500000
Dibenzo(a,h)anthracene	ND		500000
Benzo(ghi)perylene	ND		500000
Benzyl alcohol	ND		500000
2-Methylphenol	ND		500000
4-Methylphenol	ND		500000
Benzoic acid	ND		500000
4-Chloroaniline	ND		500000
2-Methylnaphthalene	1200000		500000
2,4,5-Trichlorophenol	ND		500000
2-Nitroaniline	ND		2500000
3-Nitroaniline	ND		2500000
Dibenzofuran	PRESENT	L	500000
4-Nitroaniline	ND		2500000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LAPDI 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36222
SAMPLE ID CLIENT: T-1
SAMPLE LOCATION :

UNITS : UG/KG
MATRIX: DI

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		500000
2-Chlorophenol	ND		500000
2-Nitrophenol	ND		500000
2,4-Dimethylphenol	ND		500000
2,4-Dichlorophenol	ND		500000
4-Chloro-3-Methylphenol	800000		500000
2,4,6-Trichlorophenol	ND		500000
2,4-Dinitrophenol	ND		2500000
4-Nitrophenol	ND		2500000
4,6-Dinitro-2-Methylphenol	ND		2500000
Pentachlorophenol	ND		2500000
2-Methylphenol	ND		500000
4-Methylphenol	ND		500000
Benzoic Acid	ND		2500000
2,4,5-Trichlorophenol	ND		2500000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :LBNDI 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS
SAMPLE ID LAB : EE-92-36223
SAMPLE ID CLIENT: T-2
SAMPLE LOCATION :

UNITS : UG/KG
MATRIX: DI

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-chloroethyl)ether	ND		100000
1,3-Dichlorobenzene	PRESENT	L	100000
1,4-Dichlorobenzene	PRESENT	L	100000
1,2-Dichlorobenzene	PRESENT	L	100000
Bis(2-chloroisopropyl)ether	ND		100000
N-Nitrosodipropylamine	ND		100000
Hexachloroethane	ND		100000
Nitrobenzene	ND		100000
Isophorone	ND		100000
Bis(2-chloroethoxy)methane	ND		100000
1,2,4-Trichlorobenzene	750000		100000
Naphthalene	310000		100000
Hexachlorobutadiene	ND		100000
Hexachlorocyclopentadiene	ND		100000
2-Chloronaphthalene	ND		100000
Dimethyl phthalate	ND		100000
Acenaphthylene	ND		100000
Fluorene	PRESENT	L	100000
Acenaphthene	PRESENT	L	100000
2,4-Dinitrotoluene	ND		100000
2,6-Dinitrotoluene	ND		100000
Diethylphthalate	ND		100000
4-Chlorophenyl phenyl ether	ND		100000
N-Nitrosodiphenylamine	ND		100000
4-Bromophenyl phenyl ether	ND		100000
Hexachlorobenzene	ND		100000
Phenanthrene	90000		100000
Anthracene	ND		100000
Di-n-butyl phthalate	ND		100000
Fluoranthene	ND		100000
Benzidine	ND		500000
Pyrene	PRESENT	L	100000
Butyl benzyl phthalate	ND		100000
3,3'-dichlorobenzidine	ND		200000
Benzo(a)anthracene	ND		100000
Bis(2-ethylhexyl)phthalate	160000		100000
Chrysene	ND		100000
Di-n-octyl phthalate	ND		100000

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
L = PRESENT BELOW STATED QNT. LIMIT

ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

TEST CODE :LBNDI 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS UNITS : UG/KG
SAMPLE ID LAB : EE-92-36223 MATRIX: DI
SAMPLE ID CLIENT: T-2
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzo(b)fluoranthene	ND		100000
Benzo(k)fluoranthene	ND		100000
Benzo(a)pyrene	ND		100000
Indeno(1,2,3-cd)pyrene	ND		100000
Dibenzo(a,h)anthracene	ND		100000
Benzo(ghi)perylene	ND		100000
Benzyl alcohol	ND		100000
2-Methylphenol	ND		100000
4-Methylphenol	PRESENT	L	100000
Benzoic acid	ND		500000
4-Chloroaniline	ND		100000
2-Methylnaphthalene	920000		100000
2,4,5-Trichlorophenol	ND		500000
2-Nitroaniline	ND		500000
3-Nitroaniline	ND		500000
Dibenzofuran	PRESENT	L	100000
4-Nitroaniline	ND		500000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LAPDI 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36223
SAMPLE ID CLIENT: T-2
SAMPLE LOCATION :

UNITS : UG/KG
MATRIX: DI

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	120000	J	100000
2-Chlorophenol	ND		100000
2-Nitrophenol	ND		100000
2,4-Dimethylphenol	ND		100000
2,4-Dichlorophenol	ND		100000
4-Chloro-3-Methylphenol	ND	UJ	100000
2,4,6-Trichlorophenol	ND		100000
2,4-Dinitrophenol	ND		500000
4-Nitrophenol	ND		500000
4,6-Dinitro-2-Methylphenol	ND		500000
Pentachlorophenol	ND		500000
2-Methylphenol	ND		100000
4-Methylphenol	ND		100000
Benzoic Acid	ND		500000
2,4,5-Trichlorophenol	ND		500000

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
L = PRESENT BELOW STATED QNT. LIMIT
ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

3/6/92

TEST CODE :LBNDI 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS UNITS : UG/KG
SAMPLE ID LAB : EE-92-36224 MATRIX: DI
SAMPLE ID CLIENT: T-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-chloroethyl)ether	ND		1000000
1,3-Dichlorobenzene	ND		1000000
1,4-Dichlorobenzene	ND		1000000
1,2-Dichlorobenzene	ND		1000000
Bis(2-chloroisopropyl)ether	ND		1000000
N-Nitrosodipropylamine	ND		1000000
Hexachloroethane	ND		1000000
Nitrobenzene	ND		1000000
Isophorone	ND		1000000
Bis(2-chloroethoxy)methane	ND		1000000
1,2,4-Trichlorobenzene	ND		1000000
Naphthalene	PRESENT	L	1000000
Hexachlorobutadiene	ND		1000000
Hexachlorocyclopentadiene	ND		1000000
2-Chloronaphthalene	ND		1000000
Dimethyl phthalate	ND		1000000
Acenaphthylene	ND		1000000
Fluorene	ND		1000000
Acenaphthene	ND		1000000
2,4-Dinitrotoluene	ND		1000000
2,6-Dinitrotoluene	ND		1000000
Diethylphthalate	ND		1000000
4-Chlorophenyl phenyl ether	ND		1000000
N-Nitrosodiphenylamine	ND		1000000
4-Bromophenyl phenyl ether	ND		1000000
Hexachlorobenzene	ND		1000000
Phenanthrene	PRESENT	L	1000000
Anthracene	ND		1000000
Di-n-butyl phthalate	ND		1000000
Fluoranthene	ND		1000000
Benzidine	ND		5000000
Pyrene	PRESENT	L	1000000
Butyl benzyl phthalate	ND		1000000
3,3'-dichlorobenzidine	ND		2000000
Benzo(a)anthracene	ND		1000000
Bis(2-ethylhexyl)phthalate	8000000		1000000
Chrysene	ND		1000000
Di-n-octyl phthalate	ND		1000000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

6/16/92

TEST CODE :LBNDI 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : BASE NEUTRALS UNITS : UG/KG
SAMPLE ID LAB : EE-92-36224 MATRIX: DI
SAMPLE ID CLIENT: T-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzo(b)fluoranthene	ND		1000000
Benzo(k)fluoranthene	ND		1000000
Benzo(a)pyrene	ND		1000000
Indeno(1,2,3-cd)pyrene	ND		1000000
Dibenzo(a,h)anthracene	ND		1000000
Benzo(ghi)perylene	ND		1000000
Benzyl alcohol	ND		1000000
2-Methylphenol	ND		1000000
4-Methylphenol	ND		1000000
Benzoic acid	ND		1000000
4-Chloroaniline	ND		1000000
2-Methylnaphthalene	PRESENT	L	1000000
2,4,5-Trichlorophenol	ND		1000000
2-Nitroaniline	ND		5000000
3-Nitroaniline	ND		5000000
Dibenzofuran	ND		1000000
4-Nitroaniline	ND		5000000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :LAPDI 1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36224
SAMPLE ID CLIENT: T-3
SAMPLE LOCATION :

UNITS : UG/KG
MATRIX: DI

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		1000000
2-Chlorophenol	ND		1000000
2-Nitrophenol	ND		1000000
2,4-Dimethylphenol	ND		1000000
2,4-Dichlorophenol	ND		1000000
4-Chloro-3-Methylphenol	ND		1000000
2,4,6-Trichlorophenol	ND		1000000
2,4-Dinitrophenol	ND		5000000
4-Nitrophenol	ND		5000000
4,6-Dinitro-2-Methylphenol	ND		5000000
Pentachlorophenol	ND		5000000
2-Methylphenol	ND		1000000
4-Methylphenol	ND		1000000
Benzoic Acid	ND		5000000
2,4,5-Trichlorophenol	ND		5000000

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
L = PRESENT BELOW STATED QNT. LIMIT

ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

5/6/92

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36226 MATRIX : SOLID
SAMPLE ID CLIENT: S-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-Chloroethyl)Ether	ND		7400
1,3-Dichlorobenzene	ND		7400
1,4-Dichlorobenzene	ND		7400
1,2-Dichlorobenzene	ND		7400
Bis(2-Chloroisopropyl) Ether	ND		7400
N-Nitrosodipropylamine	ND		7400
Hexachloroethane	ND		7400
Nitrobenzene	ND		7400
Isophorone	ND		7400
Bis (2-Chloroethoxy) Methane	ND		7400
1,2,4-Trichlorobenzene	ND		7400
Naphthalene	ND		7400
Hexachlorobutadiene	ND		7400
Hexachlorocyclopentadiene	ND		7400
2-Chloronaphthalene	ND		7400
Dimethyl Phthalate	ND		7400
Acenaphthylene	ND		7400
Fluorene	ND		7400
Acenaphthene	ND		7400
2,4-Dinitrotoluene	ND		7400
2,6-Dinitrotoluene	ND		7400
Diethylphthalate	ND		7400
4-Chlorophenyl Phenyl Ether	ND		7400
N-Nitrosodiphenylamine	ND		7400
4-Bromophenyl Phenyl Ether	ND		7400
Hexachlorobenzene	ND		7400
Phenanthrene	ND		7400
Anthracene	ND		7400
Di-N-Butyl-Phthalate	ND		7400
Fluoranthene	ND		7400
Benzidine	ND		36000
Pyrene	PRESENT	L	7400
Butyl Benzyl Phthalate	ND		7400
3,3'-Dichlorobenzidine	ND		15000
Benzo(A)Anthracene	ND		7400
Bis(2-Ethylhexyl)Phthalate	PRESENT	LB	7400

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : BASE NEUTRAL
SAMPLE ID LAB : EE-92-36226
SAMPLE ID CLIENT: S-1
SAMPLE LOCATION :

%SOLIDS : 89 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chrysene	ND		7400
Di-N-Octyl Phthalate	ND		7400
Benzo(B)Fluoranthene	ND		7400
Benzo(K)Fluoranthene	ND		7400
Benzo(A)Pyrene	ND		7400
Indeno(1,2,3-cd)Pyrene	ND		7400
Dibenzo(A,H)Anthracene	ND		7400
Benzo(G,H,I)Perylene	ND		7400
Benzyl Alcohol	ND		7400
4-Chloroaniline	ND		7400
2-Methylnaphthalene	ND		7400
2-Nitroaniline	ND		36000
3-Nitroaniline	ND		36000
Dibenzofuran	ND		7400
4-Nitroaniline	ND		36000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SAPBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36226
SAMPLE ID CLIENT: S-1
SAMPLE LOCATION :

%SOLIDS : 89 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		7400
2-Chlorophenol	ND		7400
2-Nitrophenol	ND		7400
2,4-Dimethylphenol	ND		7400
2,4-Dichlorophenol	ND		7400
4-Chloro-3-Methylphenol	ND		7400
2,4,6-Trichlorophenol	ND		7400
2,4-Dinitrophenol	ND		36000
4-Nitrophenol	ND		36000
4,6-Dinitro-2-Methylphenol	ND		36000
Pentachlorophenol	ND		36000
2-Methylphenol	ND		7400
4-Methylphenol	ND		7400
Benzoic Acid	ND		36000
2,4,5-Trichlorophenol	ND		36000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

3/6/92

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36227 MATRIX : SOLID
SAMPLE ID CLIENT: S-2
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-Chloroethyl)Ether	ND		7700
1,3-Dichlorobenzene	ND		7700
1,4-Dichlorobenzene	ND		7700
1,2-Dichlorobenzene	ND		7700
Bis(2-Chloroisopropyl) Ether	ND		7700
N-Nitrosodipropylamine	ND		7700
Hexachloroethane	ND		7700
Nitrobenzene	ND		7700
Isophorone	ND		7700
Bis (2-Chloroethoxy) Methane	ND		7700
1,2,4-Trichlorobenzene	ND		7700
Naphthalene	ND		7700
Hexachlorobutadiene	ND		7700
Hexachlorocyclopentadiene	ND		7700
2-Chloronaphthalene	ND		7700
Dimethyl Phthalate	ND		7700
Acenaphthylene	ND		7700
Fluorene	ND		7700
Acenaphthene	ND		7700
2,4-Dinitrotoluene	ND		7700
2,6-Dinitrotoluene	ND		7700
Diethylphthalate	ND		7700
4-Chlorophenyl Phenyl Ether	ND		7700
N-Nitrosodiphenylamine	ND		7700
4-Bromophenyl Phenyl Ether	ND		7700
Hexachlorobenzene	ND		7700
Phenanthrene	ND		7700
Anthracene	ND		7700
Di-N-Butyl-Phthalate	ND		7700
Fluoranthene	ND		7700
Benzidine	ND		37000
Pyrene	ND		7700
Butyl Benzyl Phthalate	ND		7700
3,3'-Dichlorobenzidine	ND		15000
Benzo(A)Anthracene	ND		7700
Bis(2-Ethylhexyl)Phthalate	20000	B	7700

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : BASE NEUTRAL
SAMPLE ID LAB : EE-92-36227
SAMPLE ID CLIENT: S-2
SAMPLE LOCATION :

%SOLIDS : 86 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chrysene	ND		7700
Di-N-Octyl Phthalate	ND		7700
Benzo(B)Fluoranthene	ND		7700
Benzo(K)Fluoranthene	ND		7700
Benzo(A)Pyrene	ND		7700
Indeno(1,2,3-cd)Pyrene	ND		7700
Dibenzo(A,H)Anthracene	ND		7700
Benzo(G,H,I)Perylene	ND		7700
Benzyl Alcohol	ND		7700
4-Chloroaniline	ND		7700
2-Methylnaphthalene	ND		7700
2-Nitroaniline	ND		37000
3-Nitroaniline	ND		37000
Dibenzofuran	ND		7700
4-Nitroaniline	ND		37000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SAPBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36227
SAMPLE ID CLIENT: S-2
SAMPLE LOCATION :

%SOLIDS : 86 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		7700
2-Chlorophenol	ND		7700
2-Nitrophenol	ND		7700
2,4-Dimethylphenol	ND		7700
2,4-Dichlorophenol	ND		7700
4-Chloro-3-Methylphenol	ND		7700
2,4,6-Trichlorophenol	ND		7700
2,4-Dinitrophenol	ND		37000
4-Nitrophenol	ND		37000
4,6-Dinitro-2-Methylphenol	ND		37000
Pentachlorophenol	ND		37000
2-Methylphenol	ND		7700
4-Methylphenol	ND		7700
Benzoic Acid	ND		37000
2,4,5-Trichlorophenol	ND		37000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36228 MATRIX : SOLID
SAMPLE ID CLIENT: S-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-Chloroethyl)Ether	ND		3700
1,3-Dichlorobenzene	ND		3700
1,4-Dichlorobenzene	ND		3700
1,2-Dichlorobenzene	ND		3700
Bis(2-Chloroisopropyl) Ether	ND		3700
N-Nitrosodipropylamine	ND		3700
Hexachloroethane	ND		3700
Nitrobenzene	ND		3700
Isophorone	ND		3700
Bis (2-Chloroethoxy) Methane	ND		3700
1,2,4-Trichlorobenzene	ND		3700
Naphthalene	ND		3700
Hexachlorobutadiene	ND		3700
Hexachlorocyclopentadiene	ND		3700
2-Chloronaphthalene	ND		3700
Dimethyl Phthalate	ND		3700
Acenaphthylene	ND		3700
Fluorene	ND		3700
Acenaphthene	ND		3700
2,4-Dinitrotoluene	ND		3700
2,6-Dinitrotoluene	ND		3700
Diethylphthalate	ND		3700
4-Chlorophenyl Phenyl Ether	ND		3700
N-Nitrosodiphenylamine	ND		3700
4-Bromophenyl Phenyl Ether	ND		3700
Hexachlorobenzene	ND		3700
Phenanthrene	ND		3700
Anthracene	ND		3700
Di-N-Butyl-Phthalate	ND		3700
Fluoranthene	ND		3700
Benzidine	ND		18000
Pyrene	ND		3700
Butyl Benzyl Phthalate	ND		3700
3,3'-Dichlorobenzidine	ND		7400
Benzo(A)Anthracene	ND		3700
Bis(2-Ethylhexyl)Phthalate	11000	B	3700

5/6/92

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : BASE NEUTRAL
SAMPLE ID LAB : EE-92-36228
SAMPLE ID CLIENT: S-3
SAMPLE LOCATION :

%SOLIDS : 89 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Chrysene	ND		3700
Di-N-Octyl Phthalate	ND		3700
Benzo(B)Fluoranthene	ND		3700
Benzo(K)Fluoranthene	ND		3700
Benzo(A)Pyrene	ND	U	3700
Indeno(1,2,3-cd)Pyrene	ND		3700
Dibenzo(A,H)Anthracene	ND		3700
Benzo(G,H,I)Perylene	ND		3700
Benzyl Alcohol	ND		3700
4-Chloroaniline	ND		3700
2-Methylnaphthalene	ND		3700
2-Nitroaniline	ND		18000
3-Nitroaniline	ND		18000
Dibenzofuran	ND		3700
4-Nitroaniline	ND		18000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SAPBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : ACID PHENOL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36228 MATRIX : SOLID
SAMPLE ID CLIENT: S-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		3700
2-Chlorophenol	ND		3700
2-Nitrophenol	ND		3700
2,4-Dimethylphenol	ND		3700
2,4-Dichlorophenol	ND		3700
4-Chloro-3-Methylphenol	ND		3700
2,4,6-Trichlorophenol	ND		3700
2,4-Dinitrophenol	ND		18000
4-Nitrophenol	ND		18000
4,6-Dinitro-2-Methylphenol	ND		18000
Pentachlorophenol	ND		18000
2-Methylphenol	ND		3700
4-Methylphenol	ND		3700
Benzoic Acid	ND		18000
2,4,5-Trichlorophenol	ND		18000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36229 MATRIX : SOLID
SAMPLE ID CLIENT: S-4
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-Chloroethyl)Ether	ND		7800
1,3-Dichlorobenzene	ND		7800
1,4-Dichlorobenzene	ND		7800
1,2-Dichlorobenzene	ND		7800
Bis(2-Chloroisopropyl) Ether	ND		7800
N-Nitrosodipropylamine	ND		7800
Hexachloroethane	ND		7800
Nitrobenzene	ND		7800
Isophorone	ND		7800
Bis (2-Chloroethoxy) Methane	ND		7800
1,2,4-Trichlorobenzene	ND		7800
Naphthalene	ND		7800
Hexachlorobutadiene	ND		7800
Hexachlorocyclopentadiene	ND		7800
2-Chloronaphthalene	ND		7800
Dimethyl Phthalate	ND		7800
Acenaphthylene	ND		7800
Fluorene	ND		7800
Acenaphthene	ND		7800
2,4-Dinitrotoluene	ND		7800
2,6-Dinitrotoluene	ND		7800
Diethylphthalate	ND		7800
4-Chlorophenyl Phenyl Ether	ND		7800
N-Nitrosodiphenylamine	ND		7800
4-Bromophenyl Phenyl Ether	ND		7800
Hexachlorobenzene	ND		7800
Phenanthrene	ND		7800
Anthracene	ND		7800
Di-N-Butyl-Phthalate	ND		7800
Fluoranthene	ND		7800
Benzidine	ND		38000
Pyrene	PRESENT	L	7800
Butyl Benzyl Phthalate	ND		7800
3,3'-Dichlorobenzidine	ND		16000
Benzo(A)Anthracene	ND		7800
Bis(2-Ethylhexyl)Phthalate	8000	B	7800

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36229 MATRIX : SOLID
SAMPLE ID CLIENT: S-4
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chrysene	ND		7800
Di-N-Octyl Phthalate	ND		7800
Benzo(B)Fluoranthene	ND		7800
Benzo(K)Fluoranthene	ND		7800
Benzo(A)Pyrene	ND		7800
Indeno(1,2,3-cd)Pyrene	ND		7800
Dibenzo(A,H)Anthracene	ND		7800
Benzo(G,H,I)Perylene	ND		7800
Benzyl Alcohol	ND		7800
4-Chloroaniline	ND		7800
2-Methylnaphthalene	ND		7800
2-Nitroaniline	ND		38000
3-Nitroaniline	ND		38000
Dibenzofuran	ND		7800
4-Nitroaniline	ND		38000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SAPBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : ACID PHENOL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36229 MATRIX : SOLID
SAMPLE ID CLIENT: S-4
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		7800
2-Chlorophenol	ND		7800
2-Nitrophenol	ND		7800
2,4-Dimethylphenol	ND		7800
2,4-Dichlorophenol	ND		7800
4-Chloro-3-Methylphenol	ND		7800
2,4,6-Trichlorophenol	ND		7800
2,4-Dinitrophenol	ND		38000
4-Nitrophenol	ND		38000
4,6-Dinitro-2-Methylphenol	ND		38000
Pentachlorophenol	ND		38000
2-Methylphenol	ND		7800
4-Methylphenol	ND		7800
Benzoic Acid	ND		38000
2,4,5-Trichlorophenol	ND		38000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 92 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36230 MATRIX : SOLID
SAMPLE ID CLIENT: S-5
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Bis(2-Chloroethyl)Ether	ND		7200
1,3-Dichlorobenzene	ND		7200
1,4-Dichlorobenzene	ND		7200
1,2-Dichlorobenzene	ND		7200
Bis(2-Chloroisopropyl) Ether	ND		7200
N-Nitrosodipropylamine	ND		7200
Hexachloroethane	ND		7200
Nitrobenzene	ND		7200
Isophorone	ND		7200
Bis (2-Chloroethoxy) Methane	ND		7200
1,2,4-Trichlorobenzene	ND		7200
Naphthalene	ND		7200
Hexachlorobutadiene	ND		7200
Hexachlorocyclopentadiene	ND		7200
2-Chloronaphthalene	ND		7200
Dimethyl Phthalate	ND		7200
Acenaphthylene	ND		7200
Fluorene	ND		7200
Acenaphthene	ND		7200
2,4-Dinitrotoluene	ND		7200
2,6-Dinitrotoluene	ND		7200
Diethylphthalate	ND		7200
4-Chlorophenyl Phenyl Ether	ND		7200
N-Nitrosodiphenylamine	ND		7200
4-Bromophenyl Phenyl Ether	ND		7200
Hexachlorobenzene	ND		7200
Phenanthrene	ND		7200
Anthracene	ND		7200
Di-N-Butyl-Phthalate	PRESENT	L	7200
Fluoranthene	ND		7200
Benzidine	ND		35000
Pyrene	PRESENT	L	7200
Butyl Benzyl Phthalate	ND		7200
3,3'-Dichlorobenzidine	ND		14000
Benzo(A)Anthracene	ND		7200
Bis(2-Ethylhexyl)Phthalate	PRESENT	LB	7200

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SBNBNA1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 92 %
TEST NAME : BASE NEUTRAL UNITS : UG/KG
SAMPLE ID LAB : EE-92-36230 MATRIX : SOLID
SAMPLE ID CLIENT: S-5
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Chrysene	ND		7200
Di-N-Octyl Phthalate	ND		7200
Benzo(B)Fluoranthene	ND		7200
Benzo(K)Fluoranthene	ND		7200
Benzo(A)Pyrene	ND		7200
Indeno(1,2,3-cd)Pyrene	ND		7200
Dibenzo(A,H)Anthracene	ND		7200
Benzo(G,H,I)Perylene	ND		7200
Benzyl Alcohol	ND		7200
4-Chloroaniline	ND		7200
2-Methylnaphthalene	ND		7200
2-Nitroaniline	ND		35000
3-Nitroaniline	ND		35000
Dibenzofuran	ND		7200
4-Nitroaniline	ND		35000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :SAPBNA1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : ACID PHENOL
SAMPLE ID LAB : EE-92-36230
SAMPLE ID CLIENT: S-5
SAMPLE LOCATION :

%SOLIDS : 92 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Phenol	ND		7200
2-Chlorophenol	ND		7200
2-Nitrophenol	ND		7200
2,4-Dimethylphenol	ND		7200
2,4-Dichlorophenol	ND		7200
4-Chloro-3-Methylphenol	ND		7200
2,4,6-Trichlorophenol	ND		7200
2,4-Dinitrophenol	ND		35000
4-Nitrophenol	ND		35000
4,6-Dinitro-2-Methylphenol	ND		35000
Pentachlorophenol	ND		35000
2-Methylphenol	ND		7200
4-Methylphenol	ND		7200
Benzoic Acid	ND		35000
2,4,5-Trichlorophenol	ND		35000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

MEMORANDUM

DATE: April 29, 1992

TO: Brad Stimple, Project Manager, E & E, Chicago, MI

FROM: Jane Malkin, TAT-Chemist, E & E, Chicago, IL

SUBJ: **Inorganic Data Quality Assurance Reviev**, AA Waste Oil, Rock Island, IL

REF: Analytical TDD: TO5-9203-807 Project TDD: TO5-9203-020
Analytical PAN: EIL0288AAA Project PAN: EIL0288SAA

The data quality assurance reviev of 5 soil samples and 4 liquid samples collected from the AA Waste Oil site in Rock Island, Illinois has been completed. The analysis for TCLP metals by inductively coupled plasma (ICP) EPA method 6010, and the analysis for mercury by manual cold-vapor technique (EPA method 7470) was performed by Ecology & Environment, Analytical Service Center, Cheektowaga, New York.

The 5 soil samples were numbered, S-1 through S-5, and the liquid samples were numbered, T-1 through T-4.

Data Qualifications:

I. Sample Holding Time: Acceptable.

The samples were collected on March 27, 1992 and analyzed by April 6, 1992. The samples was analyzed within the 6 months holding time from the date of collection allowed for metal samples and within 28 days holding time allowed in the case of mercury. The sample holding time allowed for cyanide sample is 14 days. This criteria was met.

II. Calibration

A. Initial Calibration and Calibration Verification: Acceptable

ICP: Initial calibration was performed with a blank and one standard. All correlation coefficients were $\geq$ 0.995. The percentage recoveries were within 90 - 110% of the true standard value. No contamination above the instrument detection limit (IDL) was detected in the initial calibration blank.

The initial calibration for mercury was performed with 7 standard and one blank. The correlation coefficient was $\geq$ 0.995. The percentage recoveries were within 80 - 120% of the true standard value in the initial calibration for mercury. No contamination above the instrument detection limit (IDL) was detected in the initial calibration blank.

The intial calibration for cyanide was performed with 4 standards and a blank. The correlation coefficient was $\geq$ 0.995. The percentage recoveries were within the 85 - 115% of the true standard value. No contamination above the IDL was detected in the initial calibration blank.

B. Continuing Calibration: Acceptable

All continuing calibration results were within the control limit of 90 - 110% for the metals and within 80 - 120% for mercury. No contamination above the IDL was detected in the continuing calibration blank.

III. Blanks: Acceptable

Method blanks were prepared and analyzed with the samples. No contamination above the IDL was detected.

IV. Laboratory Control Sample Analysis: Acceptable

All laboratory control sample analysis results were all within the 80 - 120% recovery control limit.

V. Interference Check Sample (ICS) Analysis: Acceptable

All the ICS recoveries were all within the control limits of 80 - 120%.

VI. ICP Serial Dilution: Data not available.

VII. Spike Recovery: Acceptable

Sample number S-2 was spiked with cyanide. The recovery was reported as 124%.

VIII. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Quality Assurance/Quality Control Guidance for Removal

Activities" (OSWER Directive 9360.4-01, April 1990). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

TEST CODE :STSCLP1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : SOLIDS - TOTAL UNITS : %
PARAMETER : SOLIDS - TOTAL

SAMPLE ID	RESULTS	Q
EE-92-36226 S-1	89	
EE-92-36227 S-2	86	
EE-92-36228 S-3	89	
EE-92-36229 S-4	84	
EE-92-36230 S-5	92	

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LCNT 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : CYANIDE TOTAL UNITS : MG/KG
PARAMETER : Cyanide Total

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-92-36222			
T-1	2.0		1.0
EE-92-36223			
T-2	ND		1.0
EE-92-36224			
T-3	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

TEST CODE :SCNT 1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : CYANIDE TOTAL UNITS : MG/KG
PARAMETER : Total Cyanide

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-92-36226 S-1	ND		1.0
EE-92-36227 S-2	ND		1.0
EE-92-36228 S-3	ND		1.0
EE-92-36229 S-4	ND		1.0
EE-92-36230 S-5	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : CYANIDE TOTAL UNITS : MG/KG
PARAMETER : Cyanide Total

SAMPLE ID	RESULTS	Q	QNT. LIMIT
METHOD BLANK (03/31/92)	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : CYANIDE TOTAL UNITS : MG/KG
PARAMETER : Cyanide Total

SAMPLE ID	RESULTS	Q	QNT. LIMIT
METHOD BLANK (04/06/92)	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

TEST CODE :LSULFD1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : SULFIDE TOTAL UNITS : MG/L
PARAMETER : Sulfide Total

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-92-36222 T-1	190		1.0
EE-92-36223 T-2	460		1.0
EE-92-36224 T-3	460		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

TEST CODE :SSULFD1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : SULFIDE TOTAL UNITS : MG/KG
PARAMETER : Sulfide

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-92-36226 S-1	14		4.0
EE-92-36227 S-2	14		4.0
EE-92-36228 S-3	24		4.0
EE-92-36229 S-4	69		4.0
EE-92-36230 S-5	30		4.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

TEST CODE :LIGNIT1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : IGNITABILITY UNITS : DEG F
PARAMETER : Flash Point

SAMPLE ID	RESULTS	Q
EE-92-36222 T-1	No flash at 140	
EE-92-36223 T-2	No flash at 140	
EE-92-36224 T-3	No flash at 140	

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

TEST CODE :SIGNIT1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : IGNITABILITY UNITS : DEG F
PARAMETER : Flash Point

SAMPLE ID	RESULTS	Q
EE-92-36226 S-1	No flash at 140	
EE-92-36227 S-2	No flash at 140	
EE-92-36228 S-3	No flash at 140	
EE-92-36229 S-4	No flash at 140	
EE-92-36230 S-5	No flash at 140	

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT
NA = NOT APPLICABLE

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): SOIL_ Lab Sample ID: 36226_____

Level (low/med): LOW__ Date Received: 03/28/92

Solids: ___NA

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	907			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	892			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

THIS_IS_A_TCLP_SAMPLE.

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): SOIL__ Lab Sample ID: 36227_____

Level (low/med): LOW__ Date Received: 03/28/92

Solids: ___NA

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	288			P
7440-39-3	Barium	468			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	65.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

THIS_IS_A_TCLP_SAMPLE.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): SOIL_ Lab Sample ID: 36228_____

Level (low/med): LOW__ Date Received: 03/28/92

% Solids: ___NA

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	804			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	117			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

THIS_IS_A_TCLP_SAMPLE._____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): SOIL_ Lab Sample ID: 36229_____

Level (low/med): LOW__ Date Received: 03/28/92

Solids: ___NA

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	1210			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	65.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

THIS_IS_A_TCLP_SAMPLE._____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-5

ab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

atrix (soil/water): SOIL_ Lab Sample ID: 36230_____

Level (low/med): LOW__ Date Received: 03/28/92

Solids: ___NA

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	749			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	739			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

THIS_IS_A_TCLP_SAMPLE._____

FORM I - IN

3/90

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

T-1

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): WATER Lab Sample ID: 36222_____

Level (low/med): LOW__ Date Received: 03/28/92

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	82.2	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	27.2			P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	715			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: BK_____ Clarity Before: CL____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts: OIL___

Comments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

T-2

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): WATER Lab Sample ID: 36223_____

Level (low/med): LOW__ Date Received: 03/28/92

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	177	U		P_
7440-39-3	Barium___	19.0	U		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	5.2	_		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	7.0	U		P_
7440-47-3	Cr +6____		_		NR
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	970	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	20.0	U		CV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	284	U		P_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
			_		__

Color Before: BK_____ Clarity Before: CL____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts: OIL___

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

T-3

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9200.687 SAS No.: _____ SDG No.: S-1___

Matrix (soil/water): WATER Lab Sample ID: 36224_____

Level (low/med): LOW__ Date Received: 03/28/92

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	177	U		P
7440-39-3	Barium	19.0	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.0	U		P
7440-47-3	Cr +6				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	257			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	20.0	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	284	U		P
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: BK_____ Clarity Before: CL____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts: OIL___

Comments:

THIS_IS_A_TCLP_SAMPLE._____

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

MEMORANDUM

DATE: May 4, 1992

TO: Brad Stimple, Project Manager, E & E, Chicago, IL

FROM: Jane G. Malkin, TAT-Chemist, E & E, Chicago, IL

SUBJ: **PCB/PEST Data Quality Assurance Reviev**, AA Waste Oil, Rock Island, Illinois

REF: Analytical TDD: T05-9203-807 Project TDD: T05-9203-020
Analytical PAN: EIL0288AAA Project PAN: EIL0288SAA

The data quality assurance review of 5 soil samples and 4 liquid samples collected from the AA Waste Oil site in Rock Island, Illinois has been completed. Analysis for polychlorinated biphenyls/pesticides (PCB/PEST) by EPA method 8080 was performed by Ecology & Environment, Analytical Services Center, New York.

The 5 soil samples were numbered, S-1 through S-5, and the 4 liquid samples were numbered, T-1 and T-4.

Data Qualifications:

I. Holding Time: Acceptable

The samples were collected on March 27, 1992, extracted on April 2, 1992 and analyzed by March 7, 1992. This met the holding time requirement for extraction of 7 days and analysis within 40 from date of extraction for soil PCB samples.

II. Calibration:

A. Initial Calibration:

A 5-point calibration was performed on the instrument. The percent relative standard deviation (%RSD) of calibration factors were all within the control limits of 10% for the compounds analyzed for except for arochlor 1254 (16.6%). Arochlor 1254 was flagged (J) as estimated in sample T-2.

B. Continuing Calibration:

The established quality control criteria for the percent

difference (%D) between the initial calibration factor is less than 15%. The following were outside the control limits:

Date	Compound	%D
4/6/92	alpha-BHC	23.7
4/7/92	alpha-BHC	33.9
	Endosulfan II	16.8
	Endrin aldehyde	19.1
4/8/92	Methoxychlor	25.9

Since none of the above compounds were detected in the associated samples, no action was taken.

III. Matrix Spike/Matrix Spike Duplicates MS/MSD: Data not available.

IV. Blanks: Acceptable

Results of the solvent blank and method blank samples were all below instrument detection limits.

V. Compound Identification: Acceptable

A spot check review of the data insured that the compounds detected or not detected were correct.

VI. Surrogate Recoveries:

The surrogate recoveries were not measurable because the surrogates were all diluted out. No action was taken.

VII. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Quality Assurance/Quality Control Guidance for Removal Activities" (April 1990). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits of quality control criteria were not met.

Initial Cost Projection Scenario: A.A. WASTE OIL

Projection ID Number: EIL0288S
Date: 06/01/92
Cleanup Contractor: 1019 - OH MATERIALS
TAT Contractor: E&E

Cost Projection Summary

Contractor Personnel	45,450.45
Contractor Equipment	10,941.96
Unit Rate Materials	12,410.00
At Cost Materials	500.00
Subcontractors	2,575.00
Waste Transportation	14,880.00
Waste Disposal	178,160.00
Cleanup Contractor Subtotal	264,917.41
Federal and State Agencies	0.00
Extramural Subtotal	264,917.41
20 % Extramural Contingency	52,983.48
Extramural Subtotal	317,900.89
TAT Personnel	28,882.80
TAT Special Projects	0.00
TAT Analytical Services	0.00
Total TAT Costs	28,882.80
Other Cost Items	0.00
Extramural Subtotal	346,783.69
15 % Project Contingency	52,017.55
Total Extramural Cost	398,801.25
EPA Regional Personnel	6,390.00
EPA Non-Regional Personnel	0.00
EPA Headquarters Direct	0.00
(0 % of Regional Hours)	
EPA Indirect	0.00
EPA Total	6,390.00
Project Total	405,191.25

TEST CODE :LP&PCB1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PESTICIDE-PCB
SAMPLE ID LAB : EE-92-36222
SAMPLE ID CLIENT: T-1
SAMPLE LOCATION :

UNITS : MG/KG
MATRIX: LIQUID

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		1.5
alpha-BHC	ND		1.5
beta-BHC	ND		1.5
gamma-BHC (Lindane)	ND		1.5
delta-BHC	ND		1.5
Chlordane	ND		12
4,4'-DDD	ND		3.0
4,4'-DDE	ND		3.0
4,4'-DDT	ND		7.5
Dieldrin	ND		3.0
Endosulfan I	ND		3.0
Endosulfan II	ND		3.0
Endosulfan Sulfate	ND		7.5
Endrin	ND		3.0
Endrin Aldehyde	ND		7.5
Heptachlor	ND		1.5
Heptachlor Epoxide	ND		1.5
PCB-1016	ND		30
PCB-1221	ND		30
PCB-1232	ND		30
PCB-1242	ND		30
PCB-1248	ND		30
PCB-1254	ND		30
PCB-1260	ND		30
Toxaphene	ND		75
Methoxychlor	ND		24

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LP&PCB1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PESTICIDE-PCB
SAMPLE ID LAB : EE-92-36223
SAMPLE ID CLIENT: T-2
SAMPLE LOCATION :

UNITS : MG/KG
MATRIX: LIQUID

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		15
alpha-BHC	ND		15
beta-BHC	ND		15
gamma-BHC (Lindane)	ND		15
delta-BHC	ND		15
Chlordane	ND		120
4,4'-DDD	ND		30
4,4'-DDE	ND		30
4,4'-DDT	ND		75
Dieldrin	ND		30
Endosulfan I	ND		30
Endosulfan II	ND		30
Endosulfan Sulfate	ND		75
Endrin	ND		30
Endrin Aldehyde	ND		75
Heptachlor	ND		15
Heptachlor Epoxide	ND		15
PCB-1016	ND		300
PCB-1221	ND		300
PCB-1232	ND		300
PCB-1242	ND		300
PCB-1248	ND		300
PCB-1254	2800	J	300
PCB-1260	ND		300
Toxaphene	ND		750
Methoxychlor	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

5/6/92

TEST CODE :LP&PCB1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PESTICIDE-PCB UNITS : MG/KG
SAMPLE ID LAB : EE-92-36224 MATRIX: LIQUID
SAMPLE ID CLIENT: T-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		1.5
alpha-BHC	ND		1.5
beta-BHC	ND		1.5
gamma-BHC (Lindane)	ND		1.5
delta-BHC	ND		1.5
Chlordane	ND		12
4,4'-DDD	ND		3.0
4,4'-DDE	ND		3.0
4,4'-DDT	ND		7.5
Dieldrin	ND		3.0
Endosulfan I	ND		3.0
Endosulfan II	ND		3.0
Endosulfan Sulfate	ND		7.5
Endrin	ND		3.0
Endrin Aldehyde	ND		7.5
Heptachlor	15		1.5
Heptachlor Epoxide	ND		1.5
PCB-1016	ND		30
PCB-1221	ND		30
PCB-1232	ND		30
PCB-1242	ND		30
PCB-1248	ND		30
PCB-1254	ND		30
PCB-1260	ND		30
Toxaphene	ND		75
Methoxychlor	ND		24

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :LP&PCB1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
TEST NAME : PESTICIDE-PCB UNITS : MG/KG
SAMPLE ID LAB : EE-92-36225 MATRIX: LIQUID
SAMPLE ID CLIENT: T-4
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		3.0
alpha-BHC	ND		3.0
beta-BHC	ND		3.0
gamma-BHC (Lindane)	ND		3.0
delta-BHC	ND		3.0
Chlordane	ND		24
4,4'-DDD	ND		6.0
4,4'-DDE	ND		6.0
4,4'-DDT	ND		15
Dieldrin	ND		6.0
Endosulfan I	ND		6.0
Endosulfan II	ND		6.0
Endosulfan Sulfate	ND		15
Endrin	ND		6.0
Endrin Aldehyde	ND		15
Heptachlor	ND		3.0
Heptachlor Epoxide	ND		3.0
PCB-1016	ND		60
PCB-1221	ND		60
PCB-1232	ND		60
PCB-1242	ND		60
PCB-1248	ND		60
PCB-1254	ND		60
PCB-1260	ND		60
Toxaphene	ND		150
Methoxychlor	ND		48

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SP&PCB1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : PESTICIDE-PCB UNITS : MG/KG
SAMPLE ID LAB : EE-92-36226 MATRIX : SOLID
SAMPLE ID CLIENT: S-1
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		0.11
alpha-BHC	ND		0.11
beta-BHC	ND		0.11
gamma-BHC (Lindane)	ND		0.11
delta-BHC	ND		0.11
Chlordane	ND		0.90
4,4'-DDD	ND		0.22
4,4'-DDE	ND		0.22
4,4'-DDT	ND		0.56
Dieldrin	ND		0.22
Endosulfan I	ND		0.22
Endosulfan II	ND		0.22
Endosulfan Sulfate	ND		0.56
Endrin	ND		0.22
Endrin Aldehyde	ND		0.56
Heptachlor	ND		0.11
Heptachlor Epoxide	ND		0.11
PCB-1016	ND		2.2
PCB-1221	ND		2.2
PCB-1232	ND		2.2
PCB-1242	22		2.2
PCB-1248	ND		2.2
PCB-1254	ND		2.2
PCB-1260	10		2.2
Toxaphene	ND		5.6
Methoxychlor	ND		1.8

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SP&PCB1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PESTICIDE-PCB
SAMPLE ID LAB : EE-92-36227
SAMPLE ID CLIENT: S-2
SAMPLE LOCATION :

%SOLIDS : 86 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		0.058
alpha-BHC	ND		0.058
beta-BHC	ND		0.058
gamma-BHC (Lindane)	ND		0.058
delta-BHC	ND		0.058
Chlordane	ND		0.46
4,4'-DDD	ND		0.12
4,4'-DDE	ND		0.12
4,4'-DDT	ND		0.29
Dieldrin	ND		0.12
Endosulfan I	ND		0.12
Endosulfan II	ND		0.12
Endosulfan Sulfate	ND		0.29
Endrin	ND		0.12
Endrin Aldehyde	ND		0.29
Heptachlor	ND		0.058
Heptachlor Epoxide	ND		0.058
PCB-1016	ND		1.2
PCB-1221	ND		1.2
PCB-1232	ND		1.2
PCB-1242	ND		1.2
PCB-1248	ND		1.2
PCB-1254	ND		1.2
PCB-1260	ND		1.2
Toxaphene	ND		2.9
Methoxychlor	ND		0.93

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SP&PCB1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : PESTICIDE-PCB UNITS : MG/KG
SAMPLE ID LAB : EE-92-36228 MATRIX : SOLID
SAMPLE ID CLIENT: S-3
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		0.056
alpha-BHC	ND		0.056
beta-BHC	ND		0.056
gamma-BHC (Lindane)	ND		0.056
delta-BHC	ND		0.056
Chlordane	ND		0.45
4,4'-DDD	ND		0.11
4,4'-DDE	ND		0.11
4,4'-DDT	ND		0.28
Dieldrin	ND		0.11
Endosulfan I	ND		0.11
Endosulfan II	ND		0.11
Endosulfan Sulfate	ND		0.28
Endrin	ND		0.11
Endrin Aldehyde	ND		0.28
Heptachlor	ND		0.056
Heptachlor Epoxide	ND		0.056
PCB-1016	ND		1.1
PCB-1221	ND		1.1
PCB-1232	ND		1.1
PCB-1242	ND		1.1
PCB-1248	ND		1.1
PCB-1254	ND		1.1
PCB-1260	ND		1.1
Toxaphene	ND		2.8
Methoxychlor	ND		0.90

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SP&PCB1

JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : PESTICIDE-PCB
SAMPLE ID LAB : EE-92-36229
SAMPLE ID CLIENT: S-4
SAMPLE LOCATION :

%SOLIDS : 85 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		0.059
alpha-BHC	ND		0.059
beta-BHC	ND		0.059
gamma-BHC (Lindane)	ND		0.059
delta-BHC	ND		0.059
Chlordane	ND		0.47
4,4'-DDD	ND		0.12
4,4'-DDE	ND		0.12
4,4'-DDT	ND		0.29
Dieldrin	ND		0.12
Endosulfan I	ND		0.12
Endosulfan II	ND		0.12
Endosulfan Sulfate	ND		0.29
Endrin	ND		0.12
Endrin Aldehyde	ND		0.29
Heptachlor	ND		0.059
Heptachlor Epoxide	ND		0.059
PCB-1016	ND		1.2
PCB-1221	ND		1.2
PCB-1232	ND		1.2
PCB-1242	ND		1.2
PCB-1248	ND		1.2
PCB-1254	ND		1.2
PCB-1260	ND		1.2
Toxaphene	ND		2.9
Methoxychlor	ND		0.94

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

TEST CODE :SP&PCB1 JOB NUMBER :9200.687
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : TAT- CHICAGO
RESULTS IN DRY WEIGHT %SOLIDS : 0.00 %
TEST NAME : PESTICIDE-PCB UNITS : MG/KG
SAMPLE ID LAB : EE-92-36230 MATRIX : SOLID
SAMPLE ID CLIENT: S-5
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Aldrin	ND		0.000
alpha-BHC	ND		0.000
beta-BHC	ND		0.000
gamma-BHC (Lindane)	ND		0.000
delta-BHC	ND		0.000
Chlordane	ND		0.000
4,4'-DDD	ND		0.000
4,4'-DDE	ND		0.000
4,4'-DDT	ND		0.000
Dieldrin	ND		0.000
Endosulfan I	ND		0.000
Endosulfan II	ND		0.000
Endosulfan Sulfate	ND		0.000
Endrin	ND		0.000
Endrin Aldehyde	ND		0.000
Heptachlor	ND		0.000
Heptachlor Epoxide	ND		0.000
PCB-1016	ND		0.000
PCB-1221	ND		0.000
PCB-1232	ND		0.000
PCB-1242	ND		0.000
PCB-1248	ND		0.000
PCB-1254	ND		0.000
PCB-1260	ND		0.000
Toxaphene	ND		0.000
Methoxychlor	ND		0.000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED QNT. LIMIT

APPENDIX B

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL

U.S. EPA ID: ILD000810291 TDD: TO5-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1100

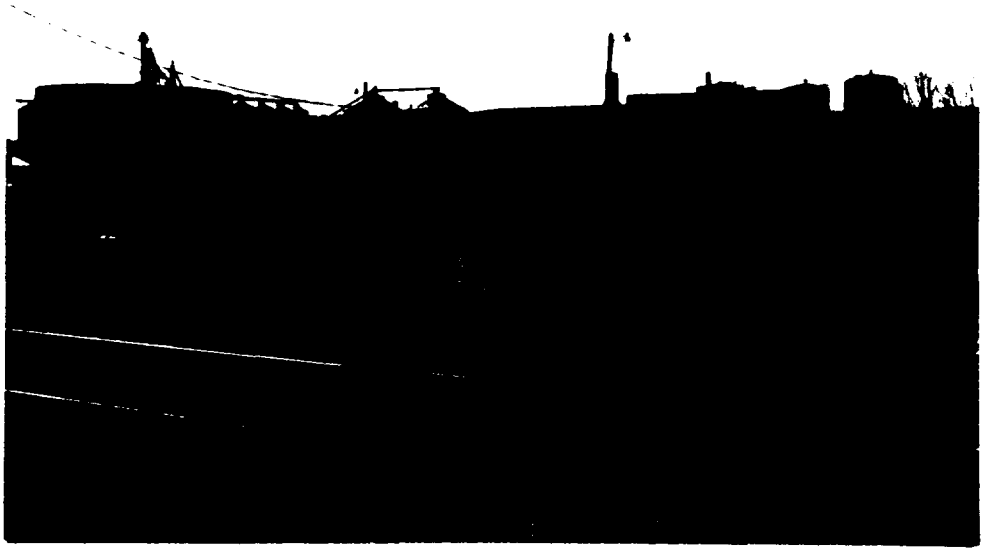
DIRECTION OF PHOTOGRAPH: SOUTHEAST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: A.A. WASTE OIL FACILITY (MORECO ENERGY, INC.) FROM ANDALUSA ROAD.

DATE: 03-27-92

TIME: 1115

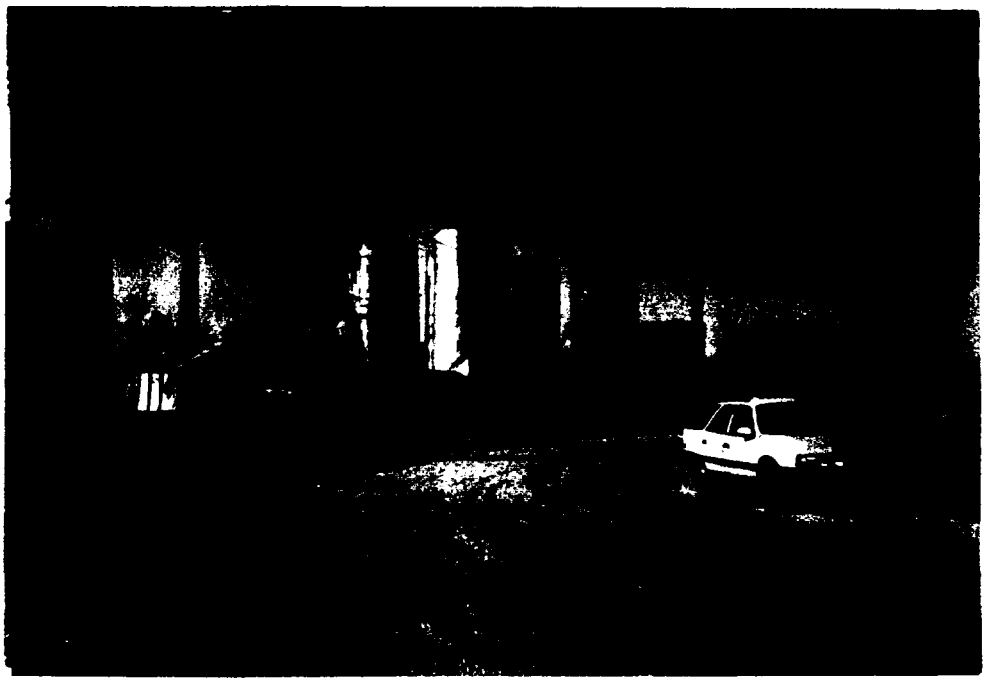
DIRECTION OF PHOTOGRAPH: WEST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: TANK FARM AREA. 15,000 TO 20,000 GALLON TANKS. IEPA VEHICLE IN FOREGROUND.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 2 OF 9

U.S. EPA ID: ILD000810291 TDD: TO5-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1130

DIRECTION OF PHOTOGRAPH: EAST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: LARGE VERTICAL TANKS (500,000 GALLON ON LEFT, 85,000 GALLON ON THE RIGHT. FENCE AROUND CONTAINMENT AREA.

DATE: 03-27-92

TIME: 1135

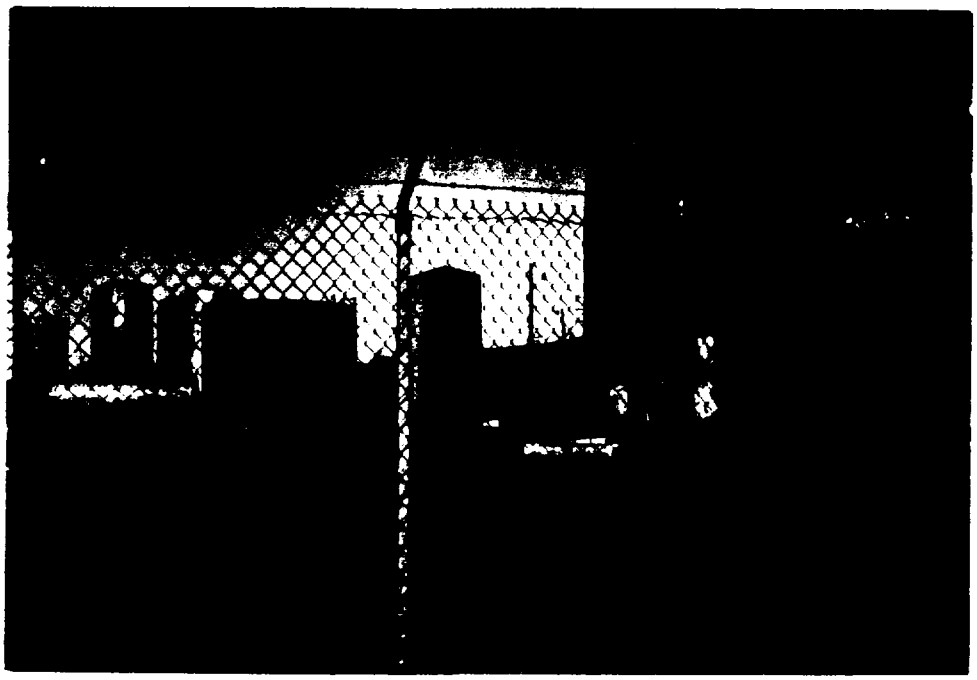
DIRECTION OF PHOTOGRAPH: WEST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: TANK FARM AREA. TANK SAMPLE T1, COLLECTED FROM 500,000 GALLON TANK, RIGHT OF PHOTOGRAPH.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 3 OF 9

U.S. EPA ID: ILD000810291 TDD: T05-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1300

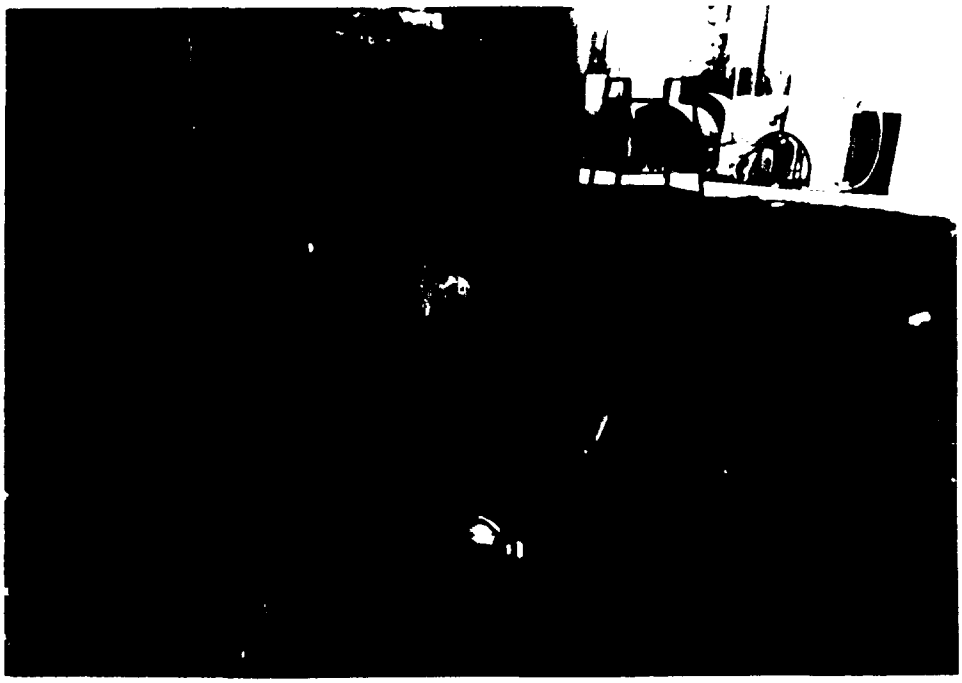
DIRECTION OF PHOTOGRAPH: SOUTHWEST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: PERSPECTIVE OF SOIL SAMPLE S1, COLLECTED NEAR STAINED AREA NEAR VALVE AND PIPING OF 500,000 GALLON TANK.

DATE: 03-27-92

TIME: 1310

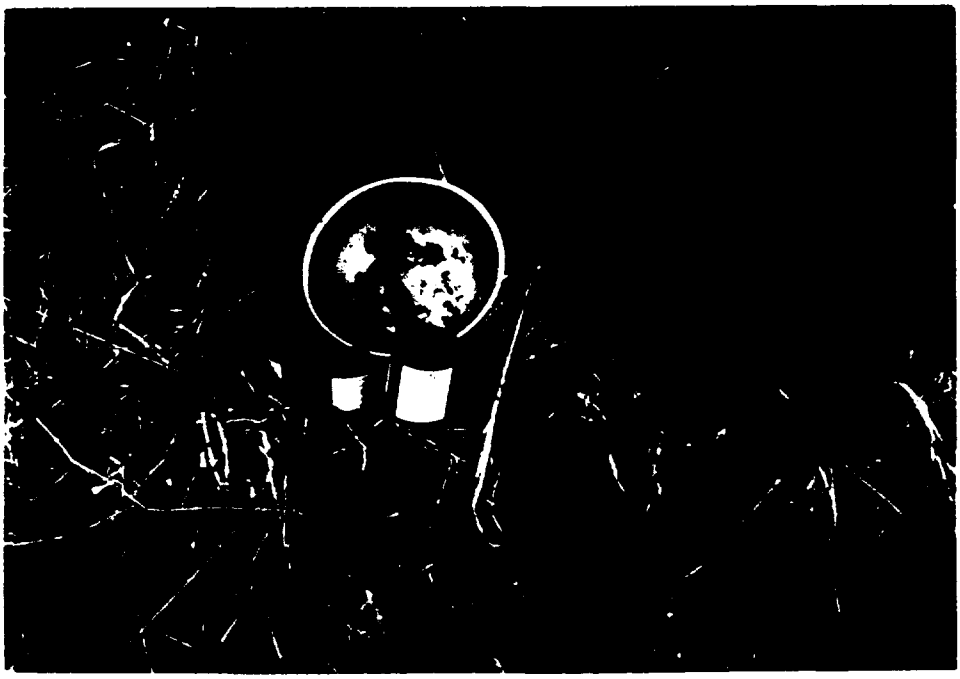
DIRECTION OF PHOTOGRAPH: SOUTHEAST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: CLOSE UP OF SOIL SAMPLE S1.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 4 OF 9

U.S. EPA ID: ILD000810291 TDD: TO5-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1320

DIRECTION OF PHOTOGRAPH: NORTHWEST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: PERSPECTIVE OF SOIL SAMPLE S2, COLLECTED NEAR STAINED AREA NEAR EAST PUMP STATION.

DATE: 03-27-92

TIME: 1330

DIRECTION OF PHOTOGRAPH: SOUTHWEST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: CLOSE UP OF SOIL SAMPLE S2.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 5 OF 9

U.S. EPA ID: ILD000810291 TDD: TO5-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1340

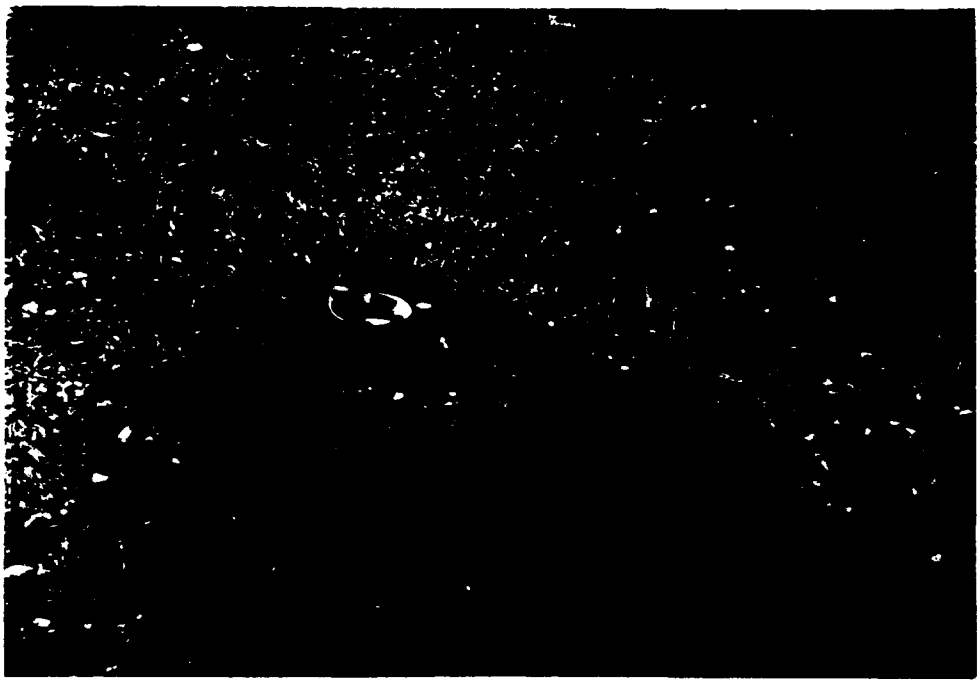
DIRECTION OF PHOTOGRAPH: NORTHWEST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: PERSPECTIVE OF SOIL SAMPLE S3. COLLECTED NEAR TANK LABELLED AS PCB.

DATE: 03-27-92

TIME: 1350

DIRECTION OF PHOTOGRAPH: NORTH

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: CLOSE-UP OF SOIL SAMPLE S3.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 6 OF 9

U.S. EPA ID: ILD000810291 TDD: T05-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1400

DIRECTION OF PHOTOGRAPH: EAST

WEATHER CONDITIONS: SUNNY. CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: CLOSE-UP OF SOIL SAMPLE S4, COLLECTED NEAR THE SOUTH CENTRAL PORTION OF THE CONTAINMENT BASIN.

DATE: 03-27-92

TIME: 1415

DIRECTION OF PHOTOGRAPH: NORTHEAST

WEATHER CONDITIONS: SUNNY. CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: COLLECTION OF SOIL SAMPLE S5.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 7 OF 9

U.S. EPA ID: ILD000810291 TDD: T05-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1455

DIRECTION OF PHOTOGRAPH: NORTH

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: CLOSE-UP OF TAT MEMBERS COLLECTING UST SAMPLE, T4.

DATE: 03-27-92

TIME: 1425

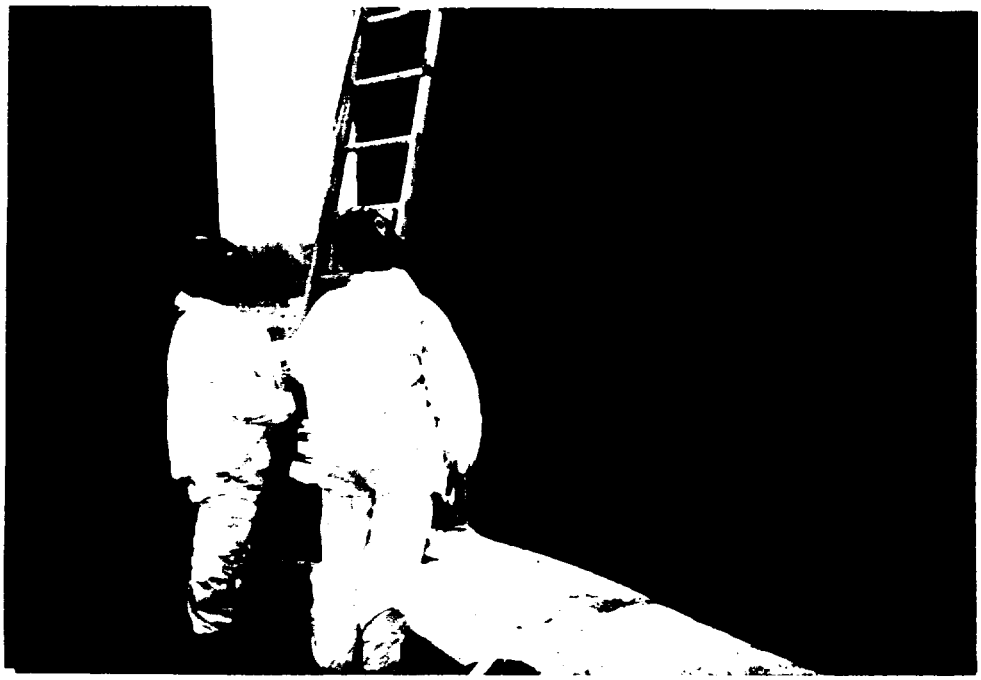
DIRECTION OF PHOTOGRAPH: SOUTHWEST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: COLLECTION OF VERTICAL TANK SAMPLE T2. NOTE YELLOW PCB LABEL.

TANK NUMBERED, FOUR.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 8 OF 9

U.S. EPA ID: ILD000810291 TDD: TO5-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1430

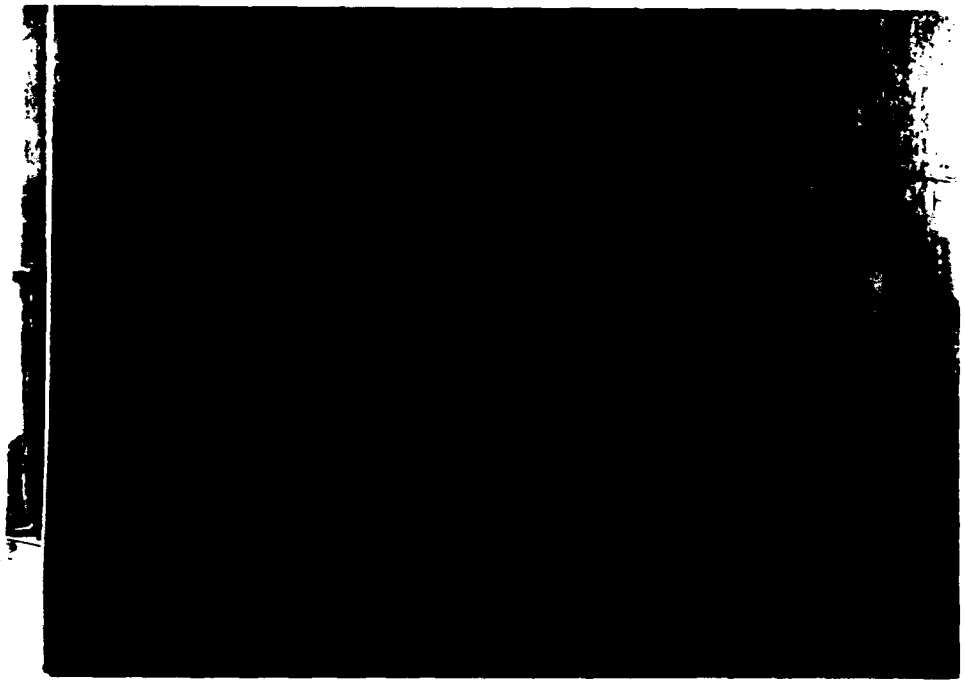
DIRECTION OF PHOTOGRAPH: SOUTHWEST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA



DESCRIPTION: CLOSE-UP OF TANK NUMBER FOUR AND PCB LABEL. TANK SAMPLE, T4

DATE: 03-27-92

TIME: 1445

DIRECTION OF PHOTOGRAPH: NORTH

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: TANK SAMPLE, T3, COLLECTED FROM TANK IN MIDDLE OF PHOTOGRAPH

A METAL LADDER IS CONNECTED TO THE TOP HALF OF THE TANK.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: A.A. WASTE OIL PAGE 9 OF 9

U.S. EPA ID: ILD000810291 TDD: T05-9203-020 PAN: EIL0288SAA

DATE: 03-27-92

TIME: 1030

DIRECTION OF PHOTOGRAPH: EAST

WEATHER CONDITIONS: SUNNY, CALM

APPROX. 45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: PERSPECTIVE OF EMPTY HORIZONTAL TANKS LOCATED ON THE EASTERN PORTION OF THE SITE.

DATE: 03-27-92

TIME: 1045

DIRECTION OF PHOTOGRAPH: SOUTHWEST

WEATHER CONDITIONS: SUNNY, CALM

45 F

PHOTOGRAPHED BY: B. STIMPLE

SAMPLE ID (if applicable): NA

DESCRIPTION: WEST SECTION OF TANK FARM AREA.

APPENDIX C

ASSUMPTIONS USED FOR DEVELOPMENT
OF COST PROJECTIONS FOR THE ROMOVAL AT
A.A. WASTE OIL (MORECO ENERGY, INC.)

1. Approximately 300,000 gallons of waste oil presently being stored in one above ground storage tank will be transported to and and disposed at Safety Kleen Company, Peoria, Illinois. The material will be blended to specifications to be used as cement kiln fuel.
(Re-refining may be an option if material is suitable)

2. Approximately 12,000 gallons of waste oil contaminated with PCBs will be transported to and disposed at Aptus Company, Coffeyville, Kansas. Due to the hazardous nature of this material. a TSCA-approved incineration facility, such as Aptus, must be utilized.

3. Approximately 120 55-gallon drums of waste paint, tank bottoms from on-site storage tanks, and approximately two cubic yards of contaminated soil will be incinerated, possibly in a fuels program. Landfilling may be an option for the soils.

4. Approximately 20 tons of srap steel from storage tanks would be transported and sold to a local iron and srap dealer.

5. Removal activities conclude after 15, 12 hour days.

Initial Cost Projection Scenario: A.A. WASTE OIL

Projection ID Number: EIL0288S Date: 06/01/92

Cleanup Contractor: 1019 - OH MATERIALS TAT Contractor: E&E

Project Scope

Number	Step/Milestone	Estimated Duration	Cost
000	GENERAL SITE COSTS	15 Days	405,191.25
			405,191.25

Projection ID Number: EIL0288S
Cleanup Contractor: 1019 - ON MATERIALS
Date: 06/01/92
TAT Contractor: E&E

Cost Projection Detail - By Category

Contractor Personnel

Job Category	Number of Employees	Number of Days	Hrs per Day	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						

Redacted-information not relevant to the selection of the removal action.

Total personnel cost: 45,450.45

Contractor Equipment

Equipment Name	Number Needed	Reg Days	Hours /day	Stby Days	Mob/Demob Days	Decon Days	Mileage	Total Charge
000 - GENERAL SITE COSTS								
043-TRUCK PICK UP	1	15	12.00	0	2	1	N/A	527.40
198-DRUM GRAPPLER 360	1	15	12.00	0	2	1	N/A	1,603.70
333-CHOPSAW	2	15	12.00	0	2	1	N/A	840.00
990-BOBCAT	1	15	12.00	0	2	1	N/A	3,750.00
103-Box-2 ton	1	15	12.00	0	2	1	N/A	2,654.98
255-Office-Equipped/8x40	1	15	12.00	0	2	1	N/A	1,565.88

Total for GENERAL SITE COSTS : 10,941.96

Total equipment cost: 10,941.96

Unit Rate Materials

Material Name	Material Use	Unit Cost	Number of Units	Total Charge
000 - GENERAL SITE COSTS				
DECON WATER	DECON	0.500	2000.0 GALLONS	1,360.00
DISP. BAILERS	SAMPLING	5.000	20.0 EACH	136.00
PPE	SAMPLING	80.000	100.0 EACH	10,880.00
SAMPLING JARS	SAMPLING	0.500	50.0 EACH	34.00

Total for GENERAL SITE COSTS : 12,410.00

Projection ID Number: EIL0288S Date: 06/01/92
Cleanup Contractor: 1019 - OH MATERIALS TAT Contractor: E&E

Unit Rate Materials

Material Name	Material Use	Unit Cost	Number of Units	Total Charge
			Total unit rate materials cost:	12,410.00

At Cost Materials

Material Name	Material Use	Quantity/Amount	Total Charge
000 - GENERAL SITE COSTS			
DEISEL	EQUIPMENT	GALLONS	300.00
GASOLINE	VEHICLES	GALLONS	200.00
		Total for GENERAL SITE COSTS :	500.00
		Total at cost materials cost:	500.00

Subcontractors

Subcontractor	Service	Billing	Total Charge
000 - GENERAL SITE COSTS			
ACE ELECTRIC CO.	ELECTRIC SERVICE	0.5 MONTHS	250.00
ACME SECURITY	SITE WATCHMAN	3.0 WEEKS	2,250.00
PORT-A-LET	PORT BATHROOM REN	0.5 MONTHS	75.00
		Total for GENERAL SITE COSTS :	2,575.00
		Total subcontractor cost:	2,575.00

Waste Transportation

Waste Type	Amount	Loads	Cost Per Mile	Miles	Total Charge
000 - GENERAL SITE COSTS					
DRUMS/SOIL	120	2	2.00	120	480.00
PCB LIQUID	12,000	2	2.50	300	1,500.00
SCRAP IRON	20 TON	3	3.00	100	900.00
WASTE OIL	300,000	50	2.00	120	12,000.00
			Total for GENERAL SITE COSTS :		14,880.00

Projection ID Number: EIL0288S Date: 06/01/92
Cleanup Contractor: 1019 - OH MATERIALS TAT Contractor: E&E

Waste Transportation

Waste Type	Amount	Loads	Cost Per Mile	Miles	Total Charge

Total transportation cost: 14,880.00

Waste Disposal

Waste Type	Disposal Method	Units	No. of Units	Unit Cost	Total Charge
000 - GENERAL SITE COSTS					
DRUMS/SOIL	INCINERATION	DRUM	120	150.00	24,480.00
PCB LIQUID	INCINERATION	LBS	96000	0.40	52,224.00
SRAP IRON	RECYCLE	TONS	20	-20.00	-544.00
WASTE OIL	FUEL BLEND	GALLONS	300000	0.25	102,000.00
			Total for GENERAL SITE COSTS :		178,160.00

Total disposal cost: 178,160.00

Federal and State Agencies 0.00

20 % Extramural Contingency: 52,983.48

TAT Personnel

Level	Number of Days	Hrs per Day	Hourly Rate	Labor	PD, Lodge Travel	Total Charge
000 - GENERAL SITE COSTS						

Redacted-information not relevant to the selection of the removal action.

Total TAT personnel cost: 28,882.80

TAT Special Projects 0.00

TAT Analytical Services 0.00

Other Costs 0.00

15 % Project Contingency: 52,017.55

Projection ID Number: EIL0288S Date: 06/01/92
Cleanup Contractor: 1019 - OH MATERIALS TAT Contractor: E&E

EPA Regional Personnel

Title	Number of Days	Hrs per Day	Hourly Rate	Labor	PD, Lodge Travel	Total Charge

000 - GENERAL SITE COSTS

Redacted-information not relevant to the selection of the removal action.

Total EPA Regional Personnel Cost:	6,390.00
EPA Headquarters Cost: (0 % of Regional hours)	0.00
EPA Indirect Cost: (180 hours @ $0.00 per hour)	0.00
EPA Non-Regional Personnel	0.00
Total EPA Cost:	6,390.00
Total site cost:	405,191.25